LIBRARY
SUPREME COURT, U. S.

APPENDIX — Volume II

Supreme Court, U.S.
FILED
NOV 25 1974
MICHAEL RODAK, JR., CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1974

No. 74-638

TEXACO INC.,

Petitioner,

versus

STATE OF LOUISIANA, ET AL,

Respondents.

PETITION FOR WRIT OF CERTIORARI TO THE SUPREME COURT OF THE STATE OF LOUISIANA

Charles F. Bailey
Bailey & Hollier
Post Office Box 52209
Lafayette, Louisiana 70501
Attorney for Petitioner

Wiley G. Lastrapes
William J. Conrad
Legal Department
Texaco Inc.
Post Office Box 60252
New Orleans, Louisiana 70160
Of Counsel

November 1974

INDEX
VOLUME II

Page

Appendix A - Opinion of Trial Judge 1

Appendix B - Opinion of Court of Appeal 72

Appendix B-1 - Concurring Opinion of Judge Tucker 114

Appendix B-2 - Dissenting Opinion of Judge Landry 115

Appendix C - Original Opinion of Louisiana Supreme Court 140

Appendix C-1 - Dissenting Opinion of Justice Barham 169

Appendix D - Opinion of Louisiana Supreme Court on Rehearing 181

Appendix D-1 - Dissenting Opinion of Justice Summers 198

APPENDIX "A"

OPINION OF THE TRIAL COURT

(Date of Entry: September 24, 1970)

STATE OF LOUISIANA, ET AL	16TH JUDICIAL DISTRICT COURT
versus No. 30, 111	PARISH OF ST. MARY
PLACID OIL COMPANY, ET AL	STATE OF LOUISIANA

REASONS FOR JUDGMENT

STATEMENT OF THE CASE

This is an action in trespass, considered and tried as a petitory action, brought by the State of Louisiana and its mineral lessee, Gulf Oil Corporation, sometimes hereinafter referred to as "plaintiffs", against Placid Oil Company and J. Ray McDermott and Co., Inc., hereinafter sometimes referred to as defendants.

Plaintiffs allege that defendants entered upon property owned by the State and leased to Gulf, and in March, 1962, drilled and completed two wells, Placid Oil Company, No. 3, S. G. Todd, and Placid Oil Company, No. 4, S. G. Todd, and shortly thereafter, in May of 1962, drilled and completed a well known as Placid Oil Company, S. G. Todd, No. 5, and have since been producing and selling oil and gas therefrom.

Plaintiffs allege that the property upon which these wells were drilled and completed belongs to the State of Louisiana, being a portion of the bed and bottom of a body of water known as Six Mile Lake, situated in St. Mary Parish, Louisiana. More particularly, plaintiffs' petition, in Paragraph 18 thereof, describes the location of the wells as follows:

(a) The well referred to as No. 3, S. G. Todd, located approximately North 21° West 997 feet from the upper back corner of Sect. 49, Township 15 South, Range 11 East.

(b) The well referred to as No. 4, S. G. Todd, located approximately North 44° West 2,366 feet from the upper back corner of Sect. 49, Township 15 South, Range 11 East.

(c) The well referred to as No. 5, S. G. Todd, located approximately North 33° West 3,418 feet from the upper back corner of Sect. 49, Township 15 South, Range 11 East, St. Mary Parish, Louisiana.

Thereafter, certain individuals alleged to be owners of the lands adjoining the property in question (or riparian owners) were joined as indispensable parties, and TEXACO, INC., (hereinafter referred to as intervenor) intervened in these proceedings alleging that it owned an undivided one-half (1/2) interest in and to "fractional Section 68, T 15 S, R 11 E, together with all accretions to said property extending to the mean low water mark of Six Mile Lake."

Plaintiffs prayed that the State be recognized as the owner of the land in question, and that Gulf Oil Corporation be recognized as the holder and owner of a mineral lease covering the area, and for damages for the value of the oil and gas allegedly illegally produced.

All parties claiming adversely to plaintiffs have been joined in the suit, either as defendants or intervenors. Prior to trial, TEXACO, INC. and all other defendants (except the present defendants) compromised their differences (Exhibit D-155), thus presenting a common front on narrowed issues. In addition, it was stipulated at the trial (TR. Vol. I, pp. 3, 4) that any contest between defendants and intervenors that might arise with respect to the division of any acreage that might be awarded to them in this suit would be relegated to a future determination or proceeding between said parties. This case, therefore, presents only issues between plaintiffs on one side and all defendants and intervenors on the other.

The case was tried over a period of three weeks, was argued, briefed and submitted. The Court wishes to thank and compliment all counsel for the extremely thorough and able manner in which the case was tried and for their unfailing courtesy and cooperation with the Court during a lengthy and difficult trial.

CONTENTIONS OF THE PARTIES

The main contention of the plaintiffs in this litigation may be summarized as follows:

(1) The property on which the three wells in question are situated is in fact the bed or bot-

tom of Six Mile Lake, a body of water navigable at the time of the State's admission to the Union in 1812, and, consequently, the state acquired title to said property to the high water mark by virtue of its inherent sovereignty; which title, thusly acquired, has never been divested.

(2) Six Mile Lake is now and was at the time of the State's admission to the Union in 1812, a true lake, as distinguished from a river or stream, and, therefore, under the Law and Jurisprudence of this State, Article 509, L.S.A. C. C. has no application.

(3) Alternatively, should the Court hold that Six Mile Lake is a river or stream and not a lake, and therefore make Article 509 C. C. applicable, that the land in controversy was not true alluvion in that it was not successively and imperceptibly formed outward from the shore, but rather is an island formed out into the lake unattached to the shore.

(4) In the further alternative, assuming Six Mile Lake to be a river or stream, as distinguished from a lake, Article 509, R.C.C. is not applicable because the alluvial deposit was not formed in the ordinary course of nature by naturally flowing waters, but rather by artificial flow or currents created by acts of man such as the dredging of

channels through Six Mile Lake, and other bodies of water to the North, all of which form a large body of water known as Grand Lake, which in turn comprises part of what is known as the Atchafalaya River.

(5) In the further alternative, plaintiffs contend the alluvial deposit was formed from spoil hydraulically dredged from the construction of the Wax Lake Outlet, which spoil overflowed the general area and was thus deposited by artifical means as distinguished from true alluvion.

On the other hand, defendants contend as follows:

(1) As plaintiffs in this petitory action, the State and Gulf, where the defendant is in possession, plaintiffs must recover on the strength of their own title and not on the weakness of defendant's title (Art. 3653 C.C.P.), and that plaintiffs have failed to meet the burden here.

(2) Defendants concede that when Louisiana was admitted to the Union in 1812, Federal and State Domain were separated at the ordinary high water mark under the Constitutional principle of equality among the States, regardless of the classification of the water bodies involved, but contend that title, at the moment of Statehood enured to the riparian owners, and not to the State, under State Law.

(3) That Six Mile Lake is not a true lake, but is a stream or river; that this is settled law of this state according to the decision of State v. Cockrell, 162 So.2d 361 (C.A. 1st Ct. 1964, writ refused, May 27, 1964), and that therefore, Arts. 509, 510 clearly apply, and that the state's ownership extends only to the low water mark, the bank of the stream being owned, according to state law, by the riparian owners.

(4) That Six Mile Lake, under the Laws and Jurisprudence of this State, is now a stream or river, and was such at the time of the State's admission to the Union in 1812.

(5) That the evidence in the case clearly shows Six Mile Lake to be a stream or river, as defined by our Laws and Jurisprudence.

(6) That the evidence in the case clearly shows that the land in question is true alluvion, having been successively and imperceptibly formed by flowing waters, regardless of whether it was aided in its formation by the acts of man.

(7) That since Six Mile Lake is in fact and in law a river or stream, the banks thereof,

defined as the area between the ordinary high water mark and the ordinary low water mark, are owned by the riparian owners, and not by the state.

(8) That the evidence clearly establishes the location of the ordinary high water mark and the ordinary low water mark.

ISSUES

The issues in this case, as established by the pleadings, evidence and briefs, may be stated as follows:

(1) Does the State of Louisiana, as a matter of law, by virtue of her inherent sovereignty, own the beds and bottoms of navigable waters to the ordinary low or the ordinary high water mark?

(2) Is Six Mile Lake, as a matter of law and of fact, a true lake or a river or stream, under the Laws and Jurisprudence of the State of Louisiana, and particularly, Art. 509 of the Civil Code?

(3) Is the property in question upon which the wells are located true alluvion as having been formed successively and imperceptibly, according to Art. 509, R.C.C.?

(4) Where is the ordinary low water mark in Six Mile Lake, and how is it correctly determined?

Although the parties may have raised other issues, a correct determination of the above issues will resolve all substantial differences presented in this case.

PRELIMINARY DISCUSSION

RELEVANCY AND EFFECT OF COCKRELL CASE

At or near the conclusion of the trial, the defendants and intervenors filed pleas of Res Judicata, Stare Decisis and Judicial Estoppel, seeking to have the Court render a decision in their favor on the basis that the decision of the First Circuit Court of Appeal in the case of State v. Cockrell, 162 So.2d 361 (1964, writs refused May 27, 1964), hereinafter referred to simply as the Cockrell Case, and the authorities therein cited, are determinative of the issues presented to the Court in this case. In order to dispose of these pleas and to correctly show the relationship and importance of the Cockrell Case to the instant case, a brief discussion of the Cockrell Case and its holdings is necessary.

The plaintiffs in this case are the identical plaintiffs who were before the Court in the Cockrell Case. The defendants are different, as Ernest Cockrell, Jr., Southern Natural Gas Company, the Zenor Family, and other landowners were parties defendant. The well in question in the Cockrell Case was located approximately 700 feet northerly of the southern shore of Six Mile Lake, and the present boundaries of Sections 45 and 46 of T 15 S, R 11 E, St. Mary Parish. Referring to Exhibit I-23 herein, the Court, using the scale of that exhibit of 1"=500', has determined that the Cockrell-Zenor "A" well is located ap-

proximately 4,500 feet to the east of Placid-Todd Well No. 3. The relationship of these wells may also be seen on the photograph marked D-72 B. All of the wells are located on batture, north of the meander line forming the northern boundaries of Section 44, 45, 46, 47, 48, 49, 50 and 68, T. 15 S, R 11 E, St. Mary Parish.

The contentions of the parties and the issues before the Court are virtually identical in both cases. However, it should be noted that the Placid-Todd Wells, Nos. 3, 4 and 5, are located farther west of the Cockrell-Zenor Well, and, thus, the contention that they are located on lands formed largely by spoil from the Wax Lake Outlet would be more applicable in this case than in the Cockrell Case.

The testimony of the same expert witnesses who testified on behalf of the defendants in the Cockrell Case, and upon whom both this Court and the First Circuit Court of Appeal relied to make their judgments; notably, Dr. Steinmayer, Dr. McDowell, Dr. Eggler and Mr. Phillip Whittaker, were also introduced in the present case, together with the results of their additional findings of fact and conclusions pertaining to the specific property in dispute here.

Most, if not all of the documentary evidence, including photographs, maps, surveys, studies, reports of private and governmental sources, admitted in Cockrell were admitted into evidence in this case.

The paramount issue presented to the Court in the Cockrell Case is the same as in this case; i.e., is Six Mile Lake a lake, or is it a river or a stream? This Court there held, based on the decision of the Supreme Court in

Amerada Petroleum Corporation v. State Mineral Board, 203 La. 473, 14 So.2d 61, (hereinafter referred to as First Amerada), and ESSO Standard Oil Company v. Jones, 223 La. 915, 98 So.2d 236, which cases will be discussed later in more detail, that Six Mile Lake was a stream as distinguished from a lake. The First Circuit affirmed this Court in the Cockrell Case, holding, "We conclude, therefore, Six Mile Lake is a stream, as distinguished from a lake, considering it is shown to be a body of water containing currents of sufficient velocity to carry alluvial materials." 162 So.2d 361, 373.

To make this determination the Court relied upon and cited at length, the opinion of the Supreme Court in First Amerada, which defined a *lake* as

> "a body of water which is more or less stagnant and in which the water is supplied from drainage."

And, defined a *river* as

> "a body of water that flows, more or less in a permanent bed or channel between well defined banks."

And, then distinguished a stream from a river as

> "a stream, though flowing, does not possess the well defined walls and banks of a river, and further, that the waters of a stream are not still and dead and are not supplied by drainage."

The Supreme Court, in First Amerada, then concluded Art. 509, R.C.C., to be applicable to any body of water containing moving waters having the capacity to form accretions. The Court reasoned the rule had to be so because of the manifest inequity of subjecting riparian owners to the risk of losing property by the eroding effects of moving waters without affording the benefit of any accretion or alluvial deposits which might attach to their property by the same natural force.

The rule of First Amerada was cited and followed by our Supreme Court in ESSO Standard Oil Company v. Jones, supra, and both decisions were followed by this Court and the First Circuit in the Cockrell Case.

(It is noted that in First Amerada, supra, the Supreme Court affirmed this Court in holding that the Arm of Grand Lake, which is located to the West of Six Mile Lake, in St. Martin Parish, was a stream, and a part of the Atchafalaya River.) See also Amerada Petroleum Corporation v. Case, 210 La. 630, 27 So.2d 431.

The Cockrell Case also cited the well settled Jurisprudence of this State to the effect "that the beds and bottoms of all navigable waters belong to the State by virtue of its inherent sovereignty.

"With respect to rivers and streams, the beds or bottoms of the waters which the state holds in her sovereign capacity is only the land covered by the water at its ordinary low stage. Wemple v. Eastham, 150 La. 247, 90 So. 637; Pizanie v. Gautreaux, 173 La. 737, 138 So. 650; Seibert v. Conservation Commission of Louisiana, 181 La. 237, 159 So. 375; ESSO Standard Oil Company v. Jones, 233

La. 915, 98 So.2d 236. Where there are no levees the banks of rivers and streams, that is to say the land lying between the edge of the water at its ordinary low stage and the line which the water reaches in its ordinary high stage, belongs to the owner of the adjacent land subject to the right of the public to use the bank to land and unload boats and for other purposes provided by law. Wemple v. Eastham, supra."

"In the case of lakes, the bed or bottom which the state owns in her sovereign capacity is all of the land covered by the water at its ordinary high water stage. State v. Bozeman, 156 La. 635, 101 So. 4." (See State v. Cockrell, 162 So.2d 361, 364, supra.)

After setting forth the text of Articles 509 and 510 of the Civil Code, the Court in Cockrell cited Zeller v. Southern Yacht Club, 34 La. Ann. 837, stating that case held the provision of Article 509 regarding ownership of lands formed by accretion apply only to alluvial deposits on rivers and running streams and not to lakes, and stated,

> "the Jurisprudence thus established has been consistently followed in numerous subsequent cases, citing Miami Corporation v. State, 186 La. 784, 173 So. 315, Amerada Petroleum Corporation v. State Mineral Board, 203 La. 473, 14 So.2d 61, ESSO Standard Oil Company v. Jones, 233 La. 915, 98 So.2d 236." (162 So.2d 365)

Finally, on the Lake v. Stream issue, the First Circuit, in Cockrell, after concluding that the rule of State v. Erwin, 173 La. 507, 138 So. 84 (1931), insofar as it holds a body of water called a lake, through which water flows

with sufficient capacity and velocity to carry alluvion, is nevertheless a lake to which the provisions of Articles 509, 510 R.C.C. do not apply, had to that extent been overruled by the cited decisions of the Supreme Court (Miami Corporation v. State, 186 La. 784, 173 So. 315, 327 (1936).), further held:

> " *We further hold that a body of water through which a current flows or runs with such capacity and velocity and power as to form accretions, is characterized as a river or stream, depending on all attending circumstances, for the purpose of applying the rules of accretion and dereliction set forth in Articles 509, 510, R.C.C.*"
> (Emphasis mine.) (162 So.2d 368)

This last quotation from the Cockrell Case apparently establishes the criterion or test adopted by our Jurisprudence to determine the character of a body of water as either a lake, river or stream.

After reviewing the evidence in the case, much of which being identical to that introduced in this case, the First Circuit further held:

> " We conclude, therefore, Six Mile Lake is a stream, as distinguished from a lake, considering it is shown to be a body of water containing currents of sufficient velocity to carry alluvial materials. Moreover, the record conclusively shows the flow of water entering Six Mile Lake and causing its currents is not the result of drainage, but the natural movement or flow of waters of the Atchafalaya Basin on its way to the sea. Because the banks of Six Mile Lake are not

well defined as in the case of rivers, the body of water in question must be characterized as a stream rather than a river. Technically speaking, Six Mile Lake appears to be a segment of the Atchafalaya River. The record in the case before us leaves not the slightest doubt but that Six Mile Lake does in fact annually carry off a substantial portion of the tremendous volume of water flowing to the sea through the Atchafalaya River. It further appears beyond question, this condition antedated 1812 and has continued to the present time." (162 So.2d 361)

The Court next rejected the contention that the batture or alluvion was formed by the influx of spoil from the Wax Lake Outlet, or by dredging operations. After reviewing the evidence, the Court held:

> " We conclude the accretion is batture built up from the shore or land outward toward the channel of the stream and is connected and attached to the Zenor property." (162 So.2d 375)

Finally, the First Circuit, apparently relying upon Mr. Whittaker's computations, as well as the Corps of Engineers' records, found the mean sea level to be north of the property in question, thus assuring the property to belong to the riparian owners.

Thus, it can be seen that the decision of the Cockrell Case is decisive of the issues in this case. Assuming that the evidence in this case supports those conclusions, what, then, is the effect of the Cockrell Case upon the present case?

In regard to the pleas of Res Judicata, Stare Decisis and Judicial Estoppel, the Court holds that they are not well-founded and must be overruled for the following reasons:

Res Judicata is not applicable because one of the essential elements of that plea is that there must be an identity of parties in both suits (Art. 2286, R.C.C.) and the defendants and intervenors in this suit are different from those in the Cockrell Case.

The Doctrine or plea of Stare Decisis is not applicable because in Louisiana Courts are not bound by the Doctrine of Stare Decisis. Johnson v. St. Paul Mercury Insurance Company, ___ La. ___, 236 So.2d 216 (Sup. Ct., May 4, 1970, and authorities therein cited.)

And the Plea of Judicial Estoppel is not well-taken. Defendants rely on California Co. v. Price, 234 La. 338, 99 So.2d 743, for the rule that allegations made by parties in one suit are conclusively binding upon them in subsequent suits. While this is true, the Doctrine of Judicial Estoppel contemplates that there would be an identity of parties in both suits as there were in the two California Co. v. Price suits, or would involve an admission by one party in the first suit, which that party would attempt to rescind or change in the second suit. In the present case, the Court is not confronted by the identical parties litigant as in the Cockrell Case and for the most part the allegations of the plaintiffs in this suit are the same and not inconsistent with those urged by them in the Cockrell Case. At any rate, the allegations urged by plaintiffs in the Cockrell suit are not conclusively binding upon them in this suit, absent a showing that they are different or in-

consistent. Farley v. Frost Johnson Lumber Company, 133 La. 498, 63 So. 122 (1913); 19 L.L.R., 433 (1959).

Notwithstanding the above, there is a recognition in this State of the Doctrine of Jurisprudence Constante. Unlike Stare Decisis, this doctrine does not contemplate adherence to a principle of law announced and applied on a single occasion in the past.

However, when by repeated decisions in a long line of cases, a rule of law has been accepted and applied by the Courts, these adjudications assume the dignity of Jurisprudence Constante; and the rule of law upon which they are based is entitled to great weight in subsequent decisions. Johnson v. St. Paul Mercury Insurance Company, ___ La. ___, 236 So.2d 216 (Sup. Ct., March 30, 1970, Docket No. 49732); Keller v. Haas, 209 La. 343, 24 So.2d 610 (1946); Gravier v. Gravier, 200 La. 775, 8 So.2d 697 (1942); Miami Corporation v. State, 186 La. 784, 173 So. 315 (1937); Rubin and Ponder, the Ostrich and the Arbitrator, the Use of Precedent in Arbitration of Labor-Management Disputes, 13 La. L.R. 208 (1953).

It is the opinion of the Court, in view of the application of the Doctrine of Jurisprudence Constante, as above set forth, considering the many decisions of our Supreme Court and of our Court of Appeal for the First Circuit on the laws of accretion and dereliction, and the ownership of the banks of navigable streams, and, particularly the decision of the First Circuit in the Cockrell Case, in which our Supreme Court denied writs, which so clearly set forth the applicable rules of law to an area of land and to a water bottom or body of water, which, for all intents and purposes, is virtually identical to the area in dispute in

this case, this Court is duty-bound to follow these decisions. And this decision is further fortified by the fact that the evidence in this case, as will be hereinafter shown, is almost identical to that relied upon by the Court in the Cockrell Case.

Further, in support of the recognition by this Court of its duty to follow the decisions of the First Circuit in Cockrell and the Supreme Court in the two Amerada cases, and ESSO v. Jones, supra, it is observed that, in the Cockrell Case, this Court and the Appellate Courts ruled that Six Mile Lake is now a stream, and was such in 1812; that the title of the riparian owners extended to the ordinary low water mark, and includes all alluvion added thereto by the process of accretion. (162 So.2d 373, 375, 377). In so ruling, the Courts established a rule of property affecting not only defendants in that suit but all other property owners adjoining Grand Lake-Six Mile Lake segment of the Atchafalaya River. The Supreme Court has on several occasions declared that rules of property should not be reversed even though a different rule might be deemed more logical. St. Martin Land Co. vs. Pinckney, 212 La. 605, 33, So.2d 169; Robertson v. Pioneer Gas Co., 173 La. 313, 323, 127 So. 46; Cunningham v. Steidman, 133 La. 44, 62 So. 346; Gauthreau v. Theriot, 121 La. 871, 56 So. 892; Farmers Heirs v. Fletcher, 11 La. Ann. 142.

Plaintiffs herein contend that the Court of Appeal of the First Circuit erred in its findings, as hereinabove set forth, and that different rules or tests should be used to resolve the legal issues in this case. However, even they concede that it is not for this Court to correct such error if

error was committed. That right is reserved by our Constitution to the Court of Appeal for the First Circuit to reverse itself, or to the Supreme Court.

Accordingly, this Court, in consideration of the Law and Jurisprudence as hereinabove set forth, and, in recognition of its duty as herein stated, now holds, *as a matter of law* that:

(1) Six Mile Lake is a stream now, and was at the time of the State's admission to the Union in 1812, within the intendment of the term "other stream" as used in Article 509 R.C.C..

(2) The batture in question was gradually and imperceptibly formed by the currents of Six Mile Lake and built-up from the shore outward to the channel and is connected to the shore.

(3) That title to the banks of Six Mile Lake, that is, the area of land between the ordinary low water mark and the ordinary high water mark belongs to the riparian owners.

FINDINGS OF FACT

FURTHER DISCUSSION AND HOLDING

Having reached the conclusions just stated, as a matter of law, the Court might properly end its decision here. However, the Court recognizes its duty to determine the facts as presented in this case, for the benefit of the litigants as well as for the Appellate Courts, should the latter disagree with the previous conclusions. Therefore,

this Court has carefully analyzed the evidence in this case, compared that evidence to that reported in the Cockrell Case, and applied the rules of law and of the Jurisprudence, and has made an independent determination of each of the issues herein.

I.

ISSUE NO. 1

Does the State of Louisiana, as a matter of law, by virtue of her inherent sovereignty, own the beds and bottoms of navigable waters to the ordinary low or high water mark?

This issue is one of law and not of fact, and was resolved in the Cockrell Case and by other cases decided by our Appellate Courts. Thus, as stated in Cockrell:

> " It is now well settled Jurisprudence that the beds and bottoms of all navigable waters belong to the State by virtue of its inherent sovereignty."

> " With respect to rivers and streams, the bed or bottom of the water which the State holds in her sovereign capacity is only the land covered by the water at its ordinary low stage. Wemple v. Eastham, 150 La. 247, 90 So. 637; Pizanie v. Gautreaux, 173 La. 737, 138 So. 650; Seibert v. Conservation Commission of Louisiana, 181 La. 237, 159 So. 375; ESSO Standard Oil Company v. Jones, 233 La. 915, 98 So.2d 236. Where there are no levees the banks of rivers and streams, that is to say the land lying between the edge of the

water at its ordinary low stage and the line which the water reaches in its ordinary high stage, belongs to the owner of the adjacent land subject to the right of the public to use the bank to land and unload boats and for other purposes provided by law. Wemple v. Eastham, Pizanie v. Gauthreaux, supra."

" In the case of lakes, the bed or bottom which the state owns in her sovereign capacity is all of the land covered by the water at its ordinary high water stage. State v. Bozeman, 156 La. 635, 101 So. 4." See also, Arts. 455, 457, R.C.C..

In Wemple v. Eastham, supra, decided by our Supreme Court in 1922, it was held:

" The bed of a navigable river, that is, the land which the state holds in her sovereign capacity, *is only the land that is covered by the water at its ordinary low stage.* (Emphasis mine.) The land lying between the edge of the water at its ordinary low stage and the line which the edge of the water reaches at its ordinary high stage — that is, the highest stage that it usually reaches at any season of the year — is called the bank of the stream, and belongs to the owner of the adjacent land, subject to the right of the public to use the bank to land and unload boats, to dry nets, etc.. Rev. C.C., Arts. 455 and 457."

And, the Court further stated that:

> " . . . . Under Article 455 of the Civil Code the ownership of the banks of navigable streams is vested in the owners of the adjacent lands, *as an inherent right.* (Emphasis mine.) And the banks of a stream are defined as 'that which contains it in its ordinary state of high water'." (150 La. 251, 252)

And, distinguishing another case, the Court said:

> " What was meant was that the United States did not grant, as public lands, the area under navigable streams. There was no occasion for deciding, and the Court had no intention of saying, that the banks of navigable streams belonged not to adjacent landowners, but to the state."

In Shively v. Bowlby, 152 U.S. 1, 38 L.Ed. 331, 346, the United States Supreme Court said:

> " The later judgments of this Court clearly establish that the title and rights of riparian and littoral properties in the soil below high water mark of navigable waters are governed by the local laws of the several states subject, of course, to the rights granted to the United States by the Constitution." See also Hardin v. Jordan, 140 U.S. 371, 35 L.Ed. 428, 434.

The law in effect on this issue at the time of Louisiana's admission to the Union in 1812, was Article 8 of the Civil Code of 1808, which provides that:

" The use of the shores of navigable rivers or creeks is public; accordingly, everyone has a right freely to bring his ship to land there, to make fast the same to the trees which are there planted, to unload his vessels, to deposit his goods, to dry his nets, and the like.

Nevertheless, the property of the river shores belong (belongs) to those who possess the adjoining lands." (Emphasis mine.)

And, the shore referred to in that Article is and must be the same as the bank defined in Article 448 of the Code of 1825 and in Article 457 of the Code of 1870.

Therefore, it appears clearly to the Court, from these authorities, that, when Louisiana was admitted to statehood in 1812, title to the beds and bottoms of navigable waters was separated from the United States at the high water mark. The State, with respect to navigable rivers or streams, acquired title to the beds or bottoms to the ordinary low water mark, and the riparian or adjacent landowners acquired title to the banks thereof, or the area between ordinary low water and ordinary high water.

With respect to navigable lakes, the State acquired title to the beds or bottoms to the ordinary high water mark.

Further, since the Cockrell Case held (and this Court will later show) that Six Mile Lake is a navigable stream now, and was such in 1812; it follows, and the Court now holds that the State of Louisiana now owns the bed and

bottom of Six Mile Lake only up to the ordinary low water mark.

ISSUE NO. II.

> " Is Six Mile Lake, as matter of law and a matter of fact, a true lake, or a river or stream, under the Laws and Jurisprudence of the State of Louisiana, and particularly Article 509 of R.C.C.?"

This issue appears to be the most important and the one to which the parties have produced most evidence in support of and opposition to.

Before reviewing the evidence on this issue, it is necessary to set forth the legal definitions of a lake, river and stream, as defined by our Supreme Court. In the Cockrell Case, the First Circuit relied upon the definitions adopted by the Supreme Court in First Amerada, as follows:

> " It seems crystal clear the Court therein adopted the definition of a lake as a body of water which is more or less stagnant and in which the water is supplied from drainage. The Court conceded the definition of a lake as adopted therein contemplates a probable rise of water level during the rainy season sufficient to produce a current but that occurrence would not alter the character of a body of water as a lake so long as it was primarily a body of still water fed mainly by drainage."

" The opinion further recognizes a river is distinguished from a lake in that it flows, more or less, in a permanent bed or channel between well defined banks with a current."

" The opinion then distinguishes a river from a stream in that the latter, though flowing, does not possess the well defined walls and banks of a river and next differentiates a stream from a lake in that the waters of a stream are not still and dead and are not supplied by drainage." (162 So.2d 367)

" The Court then concluded Art. 509 to be applicable to any body of water containing moving waters having the capacity of forming accretions."

And finally, in Cockrell the Court held:

" We further hold that a body of water through which a current flows or runs with such capacity and velocity and power as to form accretions, is characterized as a river or stream, depending on all attending circumstances, for the purpose of applying the rules of accretion and dereliction set forth in Articles 509, 510, R.C.C." (162 So.2d 368)

Applying these definitions, we will consider the evidence on this issue.

In the present case, proof of conditions in Six Mile Lake as of 1812 depends on substantially the same evidence as

was introduced in Cockrell; i.e., governmental surveys, ancient maps and journals depicting conditions as they were observed at the time.

From the ancient maps in the record, it is clear that the Atchafalaya River in 1812, and long prior thereto, carried the waters of the Ouachita, Mississippi and Red Rivers through Grand Lake-Six Mile Lake to the Gulf of Mexico. See Exhibits D-91 (Darby); D-92 (Lafon); D-93 (Tanner); D-94 and D-141 (Latourette); D-95 (Hardee); D-96 (Map of Alluvial Valley of Mississippi); D-97 (Graham-Turner); D-98 (Bayley); D-112 (Graham); D-142 (Navigable waters of Atchafalaya Basin); D-143 (Boyd); D-145 (Ludlow) and D-146 (Melish).

Of particular significance is a composite township plat based on official surveys from 1807 to 1838, (Exhibit P-10-A) showing the Atchafalaya River System beginning at a point much farther north of the area in controversy and extending to Atchafalaya Bay. This composite plat indicates on its face the direction and flow of waters through the Atchafalaya Basin as found by governmental surveyors and clearly shows that in 1812 a very substantial portion of the waters of the Atchafalaya River found their way into Grand Lake-Six Mile Lake and thence into the Gulf of Mexico.

Plaintiffs contend that the main flow of the Atchafalaya River never reached Grand Lake but turned eastward near Cow Island, joined with Bayou Plaquemine, a distributory of the Mississippi, and then flowed south on the east side of Grand Lake, finally entering Flat Lake at the southeast end of Six Mile Lake. (See Kolb, TR. Vol. II, pp. 240, 242, 243, 253).

This contention was urged in both the First Amerada and the Cockrell Case, and rejected in both cases.

Introduced herein and of great importance is defendants' Exhibit No. 91 (D-91), a map from actual survey by William Darby, endorsed 'Entered according to Act of Congress the 8th day of April, 1816, by William Darby.' This map was introduced and given great weight in both First Amerada and Cockrell. The importance of the Darby map to the issues in this case is shown in the language of the Supreme Court in First Amerada:

> "The Darby map is one of the best known old maps of Louisiana and has been introduced in evidence in several law suits. A comparison with the more recent maps in evidence will prove that, considering the conditions under which Darby worked, his map is remarkably accurate.
>
> This map shows the Atchafalaya flowing out of the Mississippi River a short distance below the mouth of Red River. This long bend in the river is what is known as Old River since the main river cut through this bend. The general route of the Atchafalaya River is shown very much as it is today except that from Butte La Rose to Six Mile Lake this continuous stream now has several different names — Little Atchafalaya, Upper Grand River, Lower Grand River, Chopin Chute, Lake Natchez, Big Godell, Belle River, Little Godell and Bayou Long.

Darby's map shows a large lake called Lake Chetimaches. Lake Round, Lake Fausse Pointe, Lake Dauterive, Lake Chicot and Six Mile Lake are included in this lake. Several connections are shown between the Atchafalaya River and Lake Chetimaches, not as many as really exist but enough to show that at least since 1812 the Atchafalaya River has broken up at Butte La Rose to flow through many streams and the chain of Lakes to reunite in one stream at Berwick Bay. This amply demonstrates that since 1812 there has been no noticeable diversion of the waters of the Atchafalaya River to Bayou Nimrod, Chicot Pass, or Arm of Grand Lake." (14 So. 2d 70)

In First Amerada, at 14 So. 2d 71, the Supreme Court further gives an interesting description in detail of how the Atchafalaya breaks up at Butte La Rose into numerous streams and the manner in which these streams in turn flow into Grand Lake through the Arm of Grand Lake and Lake Chicot. The Court expressly found that both the Arm of Grand Lake and Bayou Nimrod are forks of the "Atchafalaya River."

Also in evidence in the record is Darby's Journal (Exhibit D-110), based on the writer's personal observation of the Atchafalaya Basin in the years 1808-1810, and published in 1816 (which was also cited in Cockrell (162 So. 2d 370), which states:

"The rapidity of the current of the Atchafalaya and the quantity of water drawn by its efflux from the Mississippi is almost inconceivable."

And, regarding the Mississippi, Darby's Journal states:

> "But as if proud in the majesty of strength, this mighty stream no sooner receives this great accession of force, than it discharges the auxilliary waters into the Atchafalaya." (D-110)

In a report to Congress by the General Land Office dated January 12, 1829 (D-112) we find the following:

> "About eighty-eight miles above Manchac, and just below the 31st degree of latitude, is the Chafalaya. This is one of the ancient channels of the Mississippi River, and being very deep, carries off at all times great quantities of water, and were its obstructions removed it would probably carry off a much larger quantity. . . .".

Attached to this report is Graham's map of 1829 showing the direct route of the Atchafalaya from its efflux to the Gulf through Grand Lake-Six Mile Lake.

For a description of Grand Lake-Six Mile Lake by an early explorer, reference is made to the Journal of James Leander Cathcart (Exhibit D-111). On one occasion, Cathcart *entered Six Mile Lake from Reed's Creek* (identified in footnote 106, p. 761 as the Lower Atchafalaya) and at p. 761 of the Journal he describes what he found:

> "Embark'd at 7:30 A.M. and retraced our steps to the Lake, where we enter'd at 9 A.M. and steer'd NW 1 mile when the mouth of the Bayou which divides Island No. 1 of the group from

> Cypress Island, bore from Bayou Reed NW by N dist'ce 9 or 10 miles, it enters near the NE point of said Island — In the Lake, half a mile from this Bayou between its NE point and the main, we deepened our water from 2-1/2 feet to 4-1/2 Fathom, in the distance of 200 yards, *this is another proof of the existence of a channel, which I have no doubt might be traced all through the Lake, of sufficient depth to answer every purpose of transportation.*" (Emphasis mine.)

At page 783 of his Journal, Cathcart reports:

> "Navy Commissioners Islands. Rodger's or Island No. 1 Depth of water 2-1/2 to 3 feet 9 to 15 feet as we entered 18 f't towards the point, 9 to 12 feet at the Bank of No 1,5-1/2 feet. *Current setting through the channels NE, 1 mile per hour.*" (Emphasis mine.)

The same documentary evidence convinced the Court in the Cockrell Case that Grand Lake-Six Mile Lake was a stream prior to and at the time of Louisiana's admission to Statehood. And the Court was further supported in that conclusion and in its further decision that this body of water has since remained a stream by the testimony and opinions of Professor R. A. Steinmayer and Dr. J. P. McDowell, both of whom gave essentially the same testimony in the present case.

Professor Steinmayer, a geologist, who organized and headed the Department of Geology at Tulane University

and who has been identified with studies of the Atchafalaya River System since 1936 (Vol. I, pp. 219, 220), testified in the Cockrell Case and in this case. He has made numerous visits to the area in question, measured the currents, walked the banks, flown over it in a helicopter, both in preparation for his testimony in Cockrell and again in this case.

He classified Six Mile Lake as a stream in the same manner as he did in the Cockrell Case, leaving no room for doubt on this subject. In doing so he went into considerable detail to show that Six Mile Lake fits the basic criteria adopted by the Louisiana Courts for the determination of the Lake-Stream status. His principal finding with the Court's comments are as follows:

(1) "Six Mile Lake has been a running body of water since before 1812." (TR. Vol. II, p. 224)

This conclusion is no longer open to serious question. It is fully supported by the ancient maps, governmental surveys, and early journals in evidence clearly showing that in 1812 the waters of the Atchafalaya River passed through Grand Lake-Six Mile Lake on their way to the Gulf. In Amerada and Cockrell, the Courts observed that there was no noticeable diversion of this flow to the Gulf.

(2) "It is a meandering body of water which is sinuous and elongated in shape." (TR. Vol. I, pp. 224, 225.)

In support, see composite Township Plat (Exhibit P-10-A). Changes in shape and sinuosity of the stream over the years are graphically reflected by Exhibits D-99, D-100,

D-101, which were prepared from a comparative study of ancient maps.

(3) "Bed and surface water gradients are present in the water body." (TR. Vol. I, p. 225)

This is supported by the Atchafalaya River Study, (Exhibits D-102, D-138, D-139). For water surface gradient from Old River to the Gulf, see Plat A, Geological Investigation of the Atchafalaya Basin (Exhibit D-109). Water surface gradient down stream from the Verdunville Gauge to the area in controversy has been stipulated at 0.15' (Exhibit D-89). See also Dr. Steinmayer's testimony as to downstream gradient in bed of Six Mile Lake. (TR. Vol. II, pp. 273, 274).

(4) "Alluvial fans are found at the head of Grand Lake, having surface gradients sloping downstream. This reflects that the sediments were not deposited in quiet water, but were drawn down by the stream itself." (TR. Vol. I, pp. 225, 226.)

It is admitted that the stream gradient declines as the Atchafalaya River enters Grand Lake (D-89). This causes a reduction in current velocity and deposition of sediments. However, according to the testimony of both Steinmayer and Kolb (plaintiffs' expert) the sedimentary formation in the upper end of Grand Lake has a surface slope downstream. (Steinmayer, TR. Vol. I, pp. 225, 226; Kolb, TR. Vol. II, p. 278). According to Steinmayer, this reflects deposition in a running body of water as the sediments are drawn down by the stream itself. The witness pointed out that if the deposits had been made in still water, the

formation would be a delta, which differs from an alluvial fan by its relatively flat surface. (TR. Vol. I, p. 225).

(5) "Substantial currents are found in Six Mile Lake, both medial and littoral." (TR. Vol. I, pp. 227-229.)

Professor Steinmayer measured currents in Six Mile Lake with a current meter. For the Cockrell Case on February 8, 1960, he found bank currents at 0.68 m.p.h., and minimum mean channel currents at 1.55 m.p.h.; the maximum mean velocity currents at 2.2 m.p.h. For this case, he again measured currents and found average mean bank velocity was 0.43 m.p.h.; the minimum mean channel velocity was .98 m.p.h. and the maximum mean velocity was 1.4 m.p.h. (TR. Vol. I, pp. 227-228). Dr. Kolb admitted that there were substantial gradient currents in Six Mile Lake. He pointed out that gradient currents are most effective in a water body like Grand Lake-Six Mile Lake where there is a large discharge of water into it, and a relatively short distance between the point of inlet and point of outlet. (TR. Vol. II, pp. 273, 274). And it will be remembered that Cathcart found currents in this water body in 1816 over 100 years before channel improvement work was commenced in the Atchafalaya Basin.

(6) "Six Mile Lake has a thalweg." (TR. Vol. I, p. 231).

The U. S. Corps of Engineers show a thalweg in Grand Lake-Six Mile Lake (Exhibit D-102, pp. 18, 19; Exhibit D-138, Plat B-38). Cathcart also found a distinct channel in this water body in 1816, reflecting that the same existed prior to Statehood. Dr. Kolb defined a "thalweg" as a

"line connecting the lowest points in a valley." (TR. Vol. II, pp. 285, 286). And, he acknowledged the obvious fact that major currents concentrate around the channel. (TR. Vol. II, p. 274). This feature of Grand Lake-Six Mile Lake distinguishes it from a lake, as it reflects a water body having a principal stream of flow along the deepest portion of its bed.

(7) "This body of water has a tremendous discharge capacity." (TR. Vol. I, p. 232).

This is true now and at the time of statehood. Both courts in Amerada and Cockrell recognized this. (14 So. 2d 61, 71).

(8) "Grand Lake-Six Mile Lake has the capacity to erode, transport and deposit material." (TR. Vol. I, p. 223).

There can be no question as to this, as the evidence in support thereof is conclusive.

(9) "Fluctuating water stages occur which are far in excess of tidal influence." (TR. Vol. I, p. 234).

This is an obvious fact, and is fully shown by graphs depicting low and high water stages at Verdunville Gauge as prepared by Mr. Whittaker, from the official gauge records. (Exhibit I-20). It is also clearly shown by early writers that this area was affected by the flood stages of the Atchafalaya from earliest times. (Exhibit D-110).

(10) "The Atchafalaya River System, in all of its segments, has banks." (TR. Vol. I, p. 235).

Professor Steinmayer made this finding from his long study of the Lower Atchafalaya Basin. Cathcart also found banks along Grand Lake-Six Mile Lake, and the Court noted that fact in the Cockrell Case.

(11) "Changes in current velocity as well as differences in the velocities of medial and littoral currents are reflected by: (1) cross bedding of deposits, and (2) deposition of coarser materials in the channel and finer materials near the shore." (TR. Vol. I, p. 236)

These findings are fully supported by and are consistent with Dr. McDowell's testimony and his cross section of sedimentary layers. (Exhibits D-114, I-22, D-23, D-116, TR. Vol. II, pp. 48, 57, 58). Dr. Kolb admits that cross bedding is a current phenomenom (TR. Vol. II, p. 279) and Martin, another witness for plaintiffs, acknowledges that the coarser materials are found nearer the center of the stream. (TR. Vol. III, p. 527).

(12) "There are no significant deposits of peat in Grand Lake-Six Mile Lake." (TR. Vol. I, pp. 237, 275).

The record shows deposits of peat are indicative of bodies of still or stagnant water. The absence of any peat deposits shows the body of water was running in 1812, and is running today. For example, 11' of peat deposits were found in Lake Peigneur (TR. Vol. I, p. 237), a true lake. State v. Jefferson Island Salt Mining Co., 183 La. 304, 163 So. 145.

In contrast with his findings that Six Mile Lake is a stream, Professor Steinmayer testified that lakes are standing or stagnant bodies of water of circular, elliptical, oval or crescent shapes, and have essentially horizontal surfaces and saucer shaped basins. Floaton typically collects on the surface of such water bodies, and dying vegetation affected by bacterial action settles on the bottom resulting in heavy deposits of peat. (TR. Vol. I, pp. 241, 242). He also found a complete absence of wave cut cliffs and beaches which are normally formed by the wave action of lakes as distinguished from the wave action of running water. (TR. Vol. I, p. 242).

Dr. John P. McDowell, an assistant professor of Geology at Tulane University, with a specialty in sedimentation, who also testified in Cockrell, confirmed the testimony of Professor Steinmayer. (TR. Vol. II, pp. 30, 31, 32).

He pointed out that greater water surface slope means faster currents, and, from his review of the Atchafalaya River study, he testified that there is a greater slope in Grand Lake from Myette Point to Wax Lake Outlet than the slope per mile of the Mississippi from Old River to the Gulf of Mexico. (TR. Vol. II, p. 72).

Dr. McDowell testified that he found no evidence of peat deposits in Six Mile Lake as he would expect to find in a still body of water. (TR. Vol. II, p. 76). In deeper parts of this water body, he found little or no sediment because of current velocity and he added that lakes typically fill their deepest portions first. (TR. Vol. II, p. 75). He also found no evidence of cliffs and beaches which are normally formed by wave action in lakes. (TR. Vol. II, p. 76).

With respect to the sedimentary layers he studied Dr. McDowell testified that the coarser materials are deposited near the middle of the water body showing greater current velocity in that part of the stream. He also found that the accretionary formations in Six Mile Lake are elongated and parallel to the stream line of the current, clearly showing the direction of the flow. (Exhibits D-114, D-116). From his case studies, he testified that there is cross bedding and stratification in the sedimentary beds and he added that these are typical current phenomena found in streams. (TR. Vol. II, pp. 46, 57, 58, 75).

The testimony of Professor Steinmayer and Dr. McDowell on this question was given considerable weight in the Cockrell Case. Plaintiffs have attempted to overcome it in the present suit primarily by the testimony of Dr. Charles R. Kolb.

Dr. Kolb, in his testimony, attempted to analyze each of the twelve findings of Professor Steinmayer, as hereinabove set forth, and to show that they apply equally to lakes or streams or attempted to distinguish them on factual grounds. (TR. Vol. II, pp. 263-294).

The Court has carefully considered the testimony of Dr. Kolb, and finds that it is not entitled to much if indeed any weight. Dr. Kolb's conclusion that the water body in question is a lake and not a stream (TR. Vol. II, p. 293) is based on criteria or standards which Dr. Kolb has established himself, and which completely ignore the criteria or standards for such a determination as set forth by our Jurisprudence.

For example, Dr. Kolb (TR. Vol. II, pp. 261, 292-293) sets forth his criteria for determining whether a water body is a lake as follows:

> 1. That all open lakes — open lakes are ones that have outlets — All open lakes are ponded areas along a stream's path to the sea.
>
> 2. All lakes are wider than the aggregate width of the rivers which enter them.
>
> 3. Currents in the river entering a lake are always greater, sometimes by several orders of magnitude, than currents in the lake.
>
> 4. That the average channel volume is rapidly filling and continually shrinking in size.
>
> 5. That its sediment load decreases in a downstream direction.

Applying his findings to these tests, Dr. Kolb concludes Six Mile Lake is a lake and not a stream. In so doing he has completely ignored the test established by our Jurisprudence for this determination which is, as stated in Cockrell and previously in this opinion, that, "a body of water through which a current flows or runs with such capacity and velocity and power as to form accretions is characterized as a river or stream. . . .".

Dr. Kolb himself admits those facts which under the above quoted test establish that this water body is a stream. Thus, he states:

"Now, concerning current velocity, there is no doubt that there are currents in Grand Lake-Six Mile Lake. Certainly at the present time there are currents of a fairly considerable magnitude." (TR. Vol. II, p. 271).

Then, after citing Professor Steinmayer's measurements of current velocities, he adds (TR. Vol. II, p. 272):

"Now, we realize — I realize there are some rather considerable currents in Grand Lake and in Six Mile Lake."

And, in TR. Vol. II, p. 276, he states:

"I might say in summary that I just do not consider the existence of currents in a water body as being characteristic of either a lake or a stream, that they occur in both."

And, concerning the power to form accretions, he states:

"The lake is continually filling by either silting in its bottom or accreting to and shrinking its shoreline where the Atchafalaya enters and forms deltas, and

"It (the sediment load) decreases markedly. As I previously pointed out, three quarters of the material in suspension is deposited in the Lake area. The remainder is carried out through the

Wax Lake and Lower Atchafalaya to the Atchafalaya Bay." (Kolb, TR. Vol. II, p. 293)

Thus, not only does Dr. Kolb ignore the criteria established by our Jurisprudence to determine this Lake v. Stream issue and substitute therefor his own unsupported and undocumented criteria, but he in fact admits the existence of those facts necessary under our Law and Jurisprudence to characterize a water body as a stream; i.e., the powerful currents and the ability to form accretions. He attempts to minimize the effect of these admissions by stating that they apply equally to lakes and streams and that to apply the test of the Jurisprudence to all water bodies would be to declare certain well recognized lakes to be streams. This may be, but in any case in Louisiana wherein this issue is raised, where the facts establish that a particular water body does have flowing currents of such power and velocity as to form accretions, then that water body is going to be judicially determined to be a stream until such time as the Supreme Court or the Legislature changes these criteria.

For the above and foregoing reasons, the Court holds that the water body known as Six Mile Lake does have as a matter of fact strong currents running through it of such power, force and velocity as to carry sediments and to form alluvian, and is, therefore, a true stream as defined by the Jurisprudence of this State, and was a stream at the time of Louisiana's admission to Statehood in 1812.

ISSUE NO. 3.

Is the property in question upon which the wells are

located true alluvion as having been formed successively and imperceptibly according to Art. 509, R.C.C.?

To answer this question we must begin with a definition of the term "alluvion" thus:

> "The accretions, which are formed successively and imperceptibly to any soil situated on the shore of a river or other stream, are called alluvion.
>
> The alluvion belongs to the owner of the soil situated on the edge of the water whether it be a river or stream and whether the same be navigable or not, who is bound to leave public that portion of the bank which is required by law for the public use." Art. 509, R.C.C.

It should be remembered that the area in question is the same continuous mass of land as was involved in the Cockrell Case. Placid-Todd Well No. 3 is situated approximately forty-five hundred (4,500') feet east of the Cockrell Well (See Exhibit I-23). Although this is one continuous land mass the parties have divided the area in dispute into two categories: (1) the woodland area, and (2) the accretionary or island area.

The woodland area lies generally to the immediate north of Sections 50, 51, and to the north and east of Section 68. The accretionary or island area lies to the north of Sections 49 and 50 in and north of Barnett's Cove.

The parties agree that the meander line of Six Mile Lake as shown on the official plat of Survey of the

Township (D-89) represents the ordinary high water mark of the water body. It is also admitted (Exhibit D-89) that defendants are the record owners of the sections which adjoin that part of the meander line on which the woodland abuts.

For a proper understanding of the continuous nature of the area in question, reference is made to the plats prepared by the witness, Whitaker, (Exhibits I-22 and I-23) and to the aerial photograph of October 26, 1966, (Exhibit No. D-72, B). Whitaker testified that the entire built-up area involved partly in this suit and partly in the Cockrell Case is one continuous body of land above the mean low water line as he determined it. (TR. Vol. II, p. 20). Plaintiff's witness, Dr. Wenberg, who interpreted aerial photographs in the area, also found from the photograph of October 10, 1963, (Exhibit P-47) that the Cockrell Well is located on a mass of land which appears to be the same all the way to the Wax Lake Outlet. (TR. Vol. II, pp. 506, 507).

BARNETT'S COVE OR WOODLAND AREA

Plaintiffs contend here as they did in the Cockrell Case that Barnett's Cove did not fill in gradually by the process of accretion but was filled artificially by dredged spoil from the dredging of Wax Lake Outlet. Plaintiffs further contend here as they did in Cockrell that part of the accretionary area north of Barnett's Cove formed as an island unattached to the shore and that title to the Island is in the State under Article 512, R.C.C.

Both of these contentions were carefully considered by the Court in the Cockrell Case and were decided adversely

to the plaintiffs. The Court found that the stratum or layer (from McDowell's core samples) containing dredge spoil was only one of eight strata constituting the batture; that two strata were laid down prior to the one containing dredge spoil; that the spoil was not deposited in place by dredging operations but was carried by the natural force of running or flowing water, and that the batture did not emerge at low water stage until some years after dredging operations in approximately 1952. (162 So. 2d 373).

On the "island" contention, the Court in Cockrell found that each of the eight strata forming the batture built-up and was thickest at the shore and thinned and sloped toward the thalweg of the stream; that the entire batture could be walked over in certain times of the year; that the plant life indicated growth primarily out of water; that the higher elevation in the northern area of the batture was correctly explained by Dr. McDowell; and that the "slough" was merely a low place in the batture. The Court concluded that the accretion built-up from the shore or land outward toward the channel of the stream and is connected to the riparian property. (162 So.2d 374, 375).

The evidence presented in this case is substantially the same as that presented in Cockrell, and, based on this evidence, this Court's findings will be the same. The sedimentary, botanical and photographic evidence, together with the lay witnesses' testimony, establishes by a clear preponderance that the build-up of batture occurred from the shore (south), outward (to the north), and that this was gradually, successively and imperceptibly done, having begun prior to 1930 and continuing through the years to the present time.

Defendants produced the testimony of Dr. McDowell, professor of Geology and specialist in sedimentation, in this case as in Cockrell. His qualifications are impressive. (TR. Vol. II, pp. 31-32). He has made extensive studies of the area in question, both in preparation for Cockrell and this case.

Exhibit I-23 shows the location of the core borings taken by him in connection with the Cockrell Case. Exhibit D-79 shows the location of additional cores taken in connection with this case. Exhibit I-22 shows the location of all of the cores, and of all of the wells in question, as well as the Zenor-Cockrell well. Exhibit D-114 (same as D-95 in Cockrell) shows cross-sections of the various sedimentary layers prepared from the cores taken for Cockrell. Exhibit D-116 shows cross-sections of the various sedimentary layers prepared from the cores taken by McDowell for Placid. These exhibits collectively depict the sedimentary structure throughout the area in controversy.

The cross-section and Dr. McDowell's testimony disclose that the entire accretionary area is underlain by an original blue-gray clay sub-stratum. All of the core holes were drilled down to the sub-stratum. The cross-sections (D-114, D-116) show in various colors numerous sedimentary layers laid down successively through the years over the sub-stratum. He testified there were eight (8) different layers above the sub-stratum (TR. Vol. II, p. 76), and that generally, the various sedimentary units or layers "slope in a gentle fashion towards the center of the water body" (TR. Vol. II, p. 42). In one cross-section (D-D' on Exhibit I-22 and D-116) representing a traverse parallel to the current of the stream, the slope of the units is in a down-

stream direction. (TR. Vol. II, p. 45). The Corps of Engineers hydrographic surveys confirm Dr. McDowell's findings. (TR. Vol. II, pp. 76-77). Generally, the units are thickest nearest the shore and thin out toward the center of the stream. (TR. Vol. II, p. 45).

Dr. McDowell concluded from his examination of the core samples and sedimentary layers that, as a result of the sloping of the layers outward from the bank in successive layers, that the batture had in fact been built-up from the shore outward toward the thalweg of the lake.

"A. Well, I would judge from the fact that each of these units slope towards the center of the water body that each represents an accretion which has begun at the bank and each one is like shingles, is imbricated on top of the one before, so this accretion is built out from the bank by adding layers upon layers.

Q. Did you reach a conclusion as to whether or not this land area was alluvial in nature or accretionary in nature?

A. Well, the sediments, particularly in the upper units here, are reasonably coarse and grain size. Sand at the top which contains current structures. I associate currents with a moving body of water. So I would judge that these were formed in a moving body of water, which I would call a stream" (TR. Vol. II, p. 47) See also: Vol. II, p. 54.

Concerning an aerial photograph taken on October 14, 1930, (Exhibits D-1 and D-3), Dr. McDowell testified that they clearly show that the Barnett Cove area was beginning to fill up as early as 1930, some ten years before the Wax Lake Outlet was completed. (TR. Vol. II, p. 59). He testified that the photos show not only that the inner part of the cove was filling with sediments but indicated sediment building up farther out in the lake, as shown by the darkening of the color in that area. (TR. Vol. II, p. 60).

Other aerial photographs taken on January 24, 1940, (Exhibits D-2 and D-4) clearly show the continuation of the sedimentation in the cove which had begun prior to 1930. (TR. Vol. II, p. 90).

Other aerial photographs, Exhibits D-5 and D-6, taken October 22, 1944; D-7 and D-8, taken October 10, 1947; D-73, taken September 24, 1949; D-74 and D-9, taken November 30, 1949; D-10 and D-11, taken December 16, 1949; D-12 and D-13, taken November 17, 1950; D-14 and D-15, taken November 18, 1951; D-16 and D-17 taken August 28, 1952; D-75, taken September 25, 1952; D-18, D-19 and D-20 taken October 16, 1953; D-21 and D-22, were examined by Dr. McDowell (TR. Vol. II, pp. 62-72), and he testified they generally show the continuing build-up in and out from Barnett's Cove, and the consequent increase in vegetation throughout the area. (TR. Vol. II, pp. 63-64).

The accretionary or woodland area appears on all of the photographs, extending farther to the north each year. Parts of the area are under water in some photos, when the water level was high. The 1952, 1953 and 1954, photographs show practically the entire area as filled up and emergent at that time, (See Vol. II, p. 69) extending to the

northern limits of the photograph. (D-75). See also TR. Vol. II, p. 70-71. On cross examination, McDowell testified the cross section showed Barnett's Cove was starting to fill up in 1930 and this had continued. (TR. Vol. II, p. 90).

It should also be noted that Dr. McDowell testified that land in an area designated LMNOL on Exhibit I-22 appears to be older than sediment which is in Barnett's Cove. (TR. Vol. II, p. 55 and 56). He explained this conclusion by relating his findings of pieces of worn and rounded pieces of wood and bark found in the core samples which shows a more or less flat horizon at the time they were deposited. (TR. Vol. II, p. 55-57). The coarser material was found nearer the center of the stream. (TR. Vol. II, p. 58).

In connection with the dredge-spoil issue, Dr. McDowell's cross sections (D-114 and D-116) show the fatty gray stratum (or layer) which may have originated as dredge spoil is both underlain and overlain by other strata of sedimentary deposits. Dr. McDowell testified that the fatty gray clay unit interrupted sedimentation that was going on before and continued to go on afterwards. He pointed out particularly that among the various strata above and below the fatty gray clay there is a red clay unit immediately above it and a red clay unit immediately below it, which slope out and become one unit towards the center of the stream. He testified specifically that "the sedimentation was going on before and afterwards." (TR. Vol. II, p. 106). He testified that although some of the material in the accretionary area may have originally been dredge spoil that eventually found its way into the Cove by natural means, but which was not placed

directly in the Cove. (TR. Vol. II, pp. 84, 85, 86, 103, 107). He stated the dredge spoil, from the evidence, was not pumped into the Cove. (TR. Vol. II, p. 107).

"ISLAND THEORY"

In regard to plaintiffs' so called "island" theory; that is, that the accretion first built up as an island in the lake not connected to the land, Dr. McDowell testified that, basically, all of the sedimentary strata were thickest at the shore and thinned out and sloped toward the thalweg of the stream. (TR. Vol. II, pp. 42, 45, 52, 53, 76, 77). He stated emphatically that the accretionary are built up from the bank out toward the center of the stream. (TR. Vol. II, p. 54).

Dr. McDowell explained the reason for the low place or so-called "slough" crossing part of the accretionary area. He stated that Unit "C" shown on Exhibit D-114 sloped from the shore toward the thalweg but then was more or less horizontal across the area. As this unit reached an elevation around sea level its configuration was affected by currents and by changes in the level of the water. When the accretion was out of water, the water had to drain off and apparently sculptured the surface and made a low area sometimes called the "slough". (TR. Vol. II, p. 54). At the time the area was built-up to near the water surface, the portion of the alluvion closest to the middle of the stream and closest to the increased currents created by the opening of the Wax Lake Outlet received the greatest amount of sediments resulting in the high spot out from the Cove. (TR. Vol. II, p. 54-55). He pointed out that prior to construction of the outlet, the units generally sloped out toward the center of the stream (but were almost horizon-

tal across the particular area in question) and because of the current action created by the opening of the Outlet, part of the area got higher while another part (the "slough") remained at about the same level. Even the low part was about mean sea level. (See Unit B-B' — Exhibits I-22 and D-114). The high spot was "strictly a high spot" in the one continuous accretionary area. (TR. Vol. II, pp. 88, 89 and 90.

Dr. McDowell pointed out that although the opening of the Wax Lake Outlet accelerated the accretionary process, it would have taken place in any event. (TR. Vol. II, pp. 91-92.)

The Court in Cockrell accepted Dr. McDowell's explanation of this occurrence. (162 So. 2d 375).

Defendants also produced the testimony of Dr. Willis A. Eggler on this Issue, as they did in the Cockrell Case.

Dr. Eggler has been a professor of Botany at Tulane since 1947. His specialty is plant ecology, which has to do with the relationship of plants to their environment including soil, water, temperature and other factors. He has done extensive work in South Louisiana and has published numerous works. He began his work in the Six Mile Lake area in 1960 in connection with the Cockrell Case. He has made numerous field trips to the area from that time until 1967, in connection with both suits. The primary object of his investigation was to determine the type of vegetation present and the conditions of water, soil, and sub-strata which prevailed at the time the plants became established and under which they grew. He took numerous cores from trees and made certain tests and

analyses of the cores and other plant life in the area. (TR. Vol. II, pp. 117-118).

In 1960, Dr. Eggler investigated the accretionary area in and out from Barnett's Cove. He worked along the transects identified as A-A', B-B' and C-C' on Exhibit I-22 and along several other transects in the area. Beginning in 1964, Dr. Eggler extended the area of investigation southward to a point between Placid-Todd Wells, Nos. 2 and 3, which would coincide approximately with the government traverse line. He also investigated the older woodland area lying west and east of Wax Lake Outlet. (TR. Vol. II, p. 139).

In defining the area investigated (other than the woodland area), Dr. Eggler stated that the Barnett's Cove area and the accretionary area are part and parcel of the same thing. He preferred to speak of it as "the accretion area which includes Barnett's Cove." (TR. Vol. II, p. 124).

Dr. Eggler's findings as a result of his investigation of the type of vegetation growing in the accretion area can be summarized as follows:

1. Between Todd Wells, Nos. 2 and 3, which are deep in the Cove itself, there was a substantial community of willow trees which were established in 1937. (TR. Vol. II, pp. 134-136). Eggler found from the age of these trees in this area that the area "was above water by the year 1937 when the oldest, and during subsequent years, when the younger trees became established. . . .". (TR. Vol. II, p. 137).

2. There was a continuous willow growth from a point between Todd Wells Nos. 2 and 3 to a point 250 feet north of Todd Well No. 3. (TR. Vol. II, p. 139). He found two cypress trees in this area which were twenty-one and twenty-two years old in 1964, (TR. Vol. II, p. 135), making the oldest willow tree established in 1937, and the oldest cypress tree in 1945. (TR. Vol. II, p. 136).

3. In the area just north of Todd Well No. 3, the oldest trees were established by the year 1948, or, stated differently, that this area was emergent by the year 1948, at which time the Cove was built up at least to that point, above water level at the time the willow seeds germinate. (TR. Vol. II, p. 139).

4. Beginning some distance north of Todd Well No. 3 there was an area of herbaceous vegetation — primarily sagittaria, which he had noted in 1960, and was still there in 1967. The diversity of vegetation increased during the interval of years and the willow communities had extended somewhat into this area. (TR. Vol. II, pp. 140, 141). In 1960, Dr. Eggler found that the 1959 sagittaria plants had a broad leaf aspect, indicating that "the plant grew out of water most of the time." (TR. Vol. II, p. 167). He concluded that, because of this, the area would "necessarily have to be essentially free from water during that time." (TR. Vol. II, p. 123).

5. North of the herbaceous area was another willow community which Dr. Eggler noted dur-

ing his studies in 1960, and which continued to grow and expand through successive years. These willows became "established across the entire area in 1951, or no later than 1951." (TR. Vol. II, p. 127). The older trees were present throughout the area. In 1960, the trees extended as far north as 100 feet north of core hold No. 37, shown on Exhibit I-22, along B-B' (TR. Vol. II, p. 127), which is a substantial distance out from the Cove proper.

Dr. Eggler explained that saggitaria grows primarily in the late spring and summer and that to achieve the broad leaf aspect the land on which it grows must be essentially free from water during the growing season. Furthermore, in order for saggitaria to become established from seeds, it is necessary that the area be "completely dewatered". (TR. Vol. II, p. 123). In order for willow trees to germinate or start growing, the soil must be emergent in the early spring when the willow seeds are ripe. (TR. Vol. II, p. 125).

6. Dr. Eggler also made a detailed study of cypress stumps in the area. (TR. Vol. II, p. 146). Referring to Exhibits D-80, D-79 and the core points on D-99, going from South to North from Sections 68 to Todd No. 5, he found twenty cut cypress stumps and took cores from twenty-four trees. (TR. Vol. II, p. 152). Exhibit D-117 is a table showing ages of the stumps. The oldest stump dated back to 1683. (TR. Vol. II, p. 154). All of them, he stated, were established by the early 1800's. (TR. Vol. II, p. 155). Seven stumps were a century old. (TR. Vol. II, p. 155). Exhibit D-80

shows ages of trees — the oldest tree, No. 14 was one-hundred ninety-two years old (in December, 1964) and the youngest was forty-two years old. (TR. Vol. II, p. 157). Eight of the smaller trees date back to 1837. One of the trees, No. 14-T, started in 1773. Eight of them go back to 1837, or earlier. (TR. Vol. II, p. 157). Exhibit D-120 shows the density of the forest which indicates uniform distribution of forest in the area. (TR. Vol. II, p. 160). Dr. Eggler found cypress trees in the immediate vicinity of Todd Wells Nos. 4 and 5, which were as old as two-hundred seventy-three years. It was an old cypress tupelo forest. (TR. Vol. II, p. 203). The area around Todd No. 4 and No. 5 wells is older land masses than Cockrell Well. (TR. Vol. II, p. 204).

These studies show areas where cypress trees started growing were on moist soil, but not inundated — they were dewatered for at least one year. "It means that my interpretation of this area is it has not been inundated for long periods of time at any time in this long history." (TR. Vol. II, p. 162).

The thrust of Dr. Eggler's findings and testimony in regard thereto is that the accretionary area formed progressively over a period of years beginning deep in Barnett's Cove and extending farther and farther to the north as the years went by. (TR. Vol. II, p. 165). The area of the Cove was emergent by at least the year 1937, and gradually through the years the emergent area extended to the north until by 1951 or 1952, the entire accretionary area was out of the water at ordinary low water level. It may also be concluded from the ages of the cypress trees

that this area was emergent, at least part of the time, for many years prior to Louisiana's admission to the Union, showing that it was between ordinary low and ordinary high water mark, or, in other words, the bank of the stream.

It is noted that Dr. Eggler confirmed Dr. McDowell's findings of water worn wood found in top of cores taken from Unit C on D-114, along B-B'. The wood was cypress. It indicated it had traveled a good distance and rubbed together (TR. Vol. II, p. 129), as it was smooth.

The testimony of Louis C. Peters, a Forester, was introduced. He determined the age of trees as shown on Exhibit I-13. (TR. Vol. II, p. 186). All trees except one were over two-hundred years old. (TR. Vol. II, p. 188). He generally corroborated the testimony of Dr. Eggler. (TR. Vol. II, pp. 192-194). He concluded that, in his opinion the "Cypress Tupelo Forest is and has been for the past several hundred years situated at a level between high water and low water." (TR. Vol. II, p. 194).

TESTIMONY OF LAY WITNESSES

The testimony of the lay witnesses in this case supports the sedimentary and botanical evidence that the accretionary build-up in and out from Barnett's Cove started at the shore and built up in a northerly direction gradually over a period of years and that the entire area was emergent by about 1952.

Clarence Landry testified that he has been familiar with the area for 37 years, that he lives on the north end of Six Mile Lake and does timber work and commercial

fishing. He said he noticed the build-up in Barnett's Cove "ever since I came on Six Mile Lake". The Cove was pretty shallow back in 1930. There was a build-up of silt before the Wax Lake outlet was dug. The build-up "took quite a while". He noticed the trees growing farther out into the deep water year after year. (Exhibit D-81), pp. 4, 6, 7).

Ralph Mendoza has lived in the Grand Lake area all his life and was a boatsman on the Atchafalaya River, Grand Lake Area starting back in 1923 or 1924. He noticed a building-up of sediments or deposits in Barnett's Cove from "year to year". He found shallower water from year to year. Prior to 1942, the Cove had plenty of "cut grass" all over, indicating shallow water. From 1942 on, every year you would find more and more deposits. The accumulation took place "from one season to another, from year to year". Mr. Mendoza testified that the area around the Todd Wells is land, is out of the water most of the year and that you "can walk on it" outside of high water stages. (Exhibit D-82, pp. 6, 7, 11). He saw the accretionary area out from Barnett's Cove come out of the water in 1952 and it kept coming out and willows began to grow. Barnett's Cove is out of the water during low water and was in 1952. (TR. Vol. I, pp. 100, 101).

Willard Wilson testified that he fished in Barnett's Cove in 1932 and 1933. The build-up had started then — they had a few scattered willows, black grass, cut grass and other vegetation in there then. (Exhibit D-83, p. 7). They fished around there until about 1938, but they "couldn't fish right in the cove for they didn't have enough water to . . .". "You couldn't run a boat in Barnett's Cove in those days." At low tide, "it went almost dry in those days." He came back to the area in

1951. "The willows were growing in the Barnett's Cove area." The "sandbar" appeared in about 1952. (TR. Vol. I, pp. 108-110).

William C. Nicks has been a commercial fisherman and timber cutter around Six Mile Lake since 1923. In 1923 Barnett's Cove was an ordinary cove and there was no difficulty in boating at that time. Since 1923, "It is filled up." Nicks stated that the filling was "gradual over a period of years." He testified that as long as he could remember there has been land around the three Placid wells above low water. (Exhibit D-84, pp. 4, 8). Mr. Nicks first noticed the build-up coming out of Barnett's Cove on the east side in 1941. When asked when it filled up in there, he replied:

(TR. Vol. I, p. 114)

"A. It was over a period of years but I would say it built-up, it didn't fill up just overnight.

"Q. I understand that. When did it fill up enough to get above low water?

"A. I couldn't answer that. I really don't know. It came out so slow. I'd say it was in '41 when I did notice it was coming out, shallow."

E. T. Mire testified that he had been familiar with the area since 1935. He and his father fished in the cove but finally had to quit "on account of the build-up." The water got shallower each year and then finally emerged as

land. It occurred "over a period of time." The build-up has been "gradual" but opening the Outlet "speeded the process up." The current coming down throws the silt out when it hits the Cut. The area around the wells is dry land most of the year and you can walk over it. (Exhibit D-85, pp. 6, 7, 9).

Norman Buck, 54 years old and in the grocery and boat business, testified that Barnett's Cove started to build-up in about 1937 or 1938, before the Wax Lake Outlet was dredged. After the Outlet was opened and the new water made the swing into it, heavy deposits were started. When asked if the build-up in the Cove happened overnight or through the years, he replied that it "was a gradual build-up". The area around the wells can be walked over at all times except in the spring of the year during high water. (Exhibit D-86, pp. 6, 7, 10). When questioned about the gradual nature of the accretionary process in the area, this witness testified:

(Ex. D-86, p. 16)

"Q. Counsel just asked you whether or not this came up suddenly. Do you know whether or not it came up suddenly, I think you already testified that the build-up was gradual?

"A. Yes, as the years went by, every year was a little more deposit, every year on up until this time.

"Q. What was there before it emerged? Was it a sandbar or was it deep water before it emerged?

"A. It used to be deep water years back, but it's like I stated awhile ago, I'd say go back to '37 or '38 is when she started a very fine silt deposit and as the years went by and Calumet Cut was cut, you had a heavier deposit as the years rolled by, which is the way it is today.

"Q. That was a gradual process?

"A. Yes, sir."

Oscar Lange testified that the build-up in the Atchafalaya bottom really started back in 1922, and that there was a certain amount of build-up in Barnett's Cove at that time, but it wasn't all that much. He testified that you can walk the whole area around the wells during most of the year. (Exhibit D-87, pp. 10, 11).

Plaintiffs' witnesses on this issue were unimpressive. Mr. Roberts, a Gulf employee, attempted to show by means of an electric analog device the flow of water currents in Six Mile Lake in order to show its relationship to sedimentary deposits in Barnett's Cove. However, Mr. Roberts admitted that his models did not take into consideration many vital issues necessary to a correct conclusion. (TR. Vol. III, pp. 343-353). And his testimony was almost totally refuted by the testimony of Raphael G. Kazman, Associate Professor of Civil Engineering at L.S.U., who testified to and demonstrated the falacies in Mr. Roberts Models and conclusions. (TR. Vol. III, pp. 680-684).

The other evidence of plaintiffs' on this issue was similarly unimpressive and no useful purpose will be served by a review thereof. Suffice it to say, this Court is satisfied that defendants have proven, by a clear preponderance of the evidence, that the area in question was built-up slowly, successively and imperceptibly, over a long period of time by the deposition of sediments carried by the strong currents of Six Mile Lake. It matters not for this determination whether this process was aided or speeded up by the influx of dredge spoil from the Wax Lake Outlet, as it has been conclusively shown that the build-up of accretion was going on before and continued after the dredging of the Wax Lake Outlet. (See ESSO Standard Oil Co. v. Jones, supra.)

The Court further holds that this accretion was built-up successively, continuously and imperceptibly from the south shore (meander line), northward toward the center of Six Mile Lake, and is connected to the riparian property. And the Court rejects the "island theory", holding, in accordance with the McDowell-Eggler evidence, that the accretion in this area built-up from the South to the North.

According to the rule laid down in ESSO Standard Oil Co. v. Jones, supra, although the works of man may accelerate the rate of alluvial accretion or deposit, such deposit is nevertheless deemed gradual, successive and imperceptible so long as the rate is such that its growth is not discernible at a given moment. The imperceptibility is likened to the growth of flowers, some of which grow more rapidly than others. Nevertheless, the growth is imperceptible if a spectator standing on the side is unable to perceive the growth at a particular moment of time. The

record in this case, exhaustively reviewed, contains not a scintilla of evidence that anyone viewing this area could perceive the deposit being formed. It is, therefore, alluvion as defined by Article 509 of the R.C.C., and the Jurisprudence of this State.

ISSUE NO. 4

Where is the ordinary low water mark in Six Mile Lake and how is it correctly determined?

The Court, having previously determined that Six Mile Lake is a stream, and, consequently, under our law that the banks of this stream belong to the riparian owner, must now proceed to resolve this final issue between the parties. The determination and correct location of the ordinary low water mark is necessary for the following reasons:

> "The use of the banks of navigable rivers or streams is public; accordingly, everyone has a right freely to bring his vessels . . .
>
> Nevertheless, the ownership of the river banks belongs to those who possess the adjacent lands." Art. 455, R.C.C.
>
> "The banks of a river or stream are understood to be that which contain it in its ordinary state of high water, for the nature of the banks does not change although for some cause they may be overflowed for a time . . .". Art. 457, R.C.C.

"The accretions which are formed successively and imperceptibly to any soil situated on the shore of a river or other stream are called alluvion.

The alluvion belongs to the owner of the soil situated on the edge of the water whether it be a river or stream, and whether the same be navigable or not, who is bound to leave public that portion of the bank which is required by law for the public use." Art. 509, R.C.C.

"It is the well settled Jurisprudence of this State that the contiguous riparian proprietor owns the bank of the river attached to his property, and this includes the alluvion or batture, and that the banks of rivers and/or streams is the land between the ordinary high water mark and the ordinary low water mark." Seibert v. Conservation Commission of Louisiana, 181 La. 237, 159 So. 375, 377 (1935); Wemple v. Eastham, et al, 150 La. 247, 90 So. 637; Pizanie v. Gautreaux, 173 La. 737, 138 So. 650, State v. Cockrell, supra.

Thus, the bank or shore of a stream is the land lying between the ordinary high water mark and the ordinary low water mark.

In this case, the parties have stipulated that the meander line of A. L. Fields, as shown on the official plat of Survey of the Township (D-89), represents the ordinary high water mark of Six Mile Lake. It remains for the Court to define and locate the ordinary low water mark.

The Court in the Cockrell Case did not locate or determine the ordinary low water mark of Six Mile Lake. The Court concluded from the evidence there that the batture in question was clearly above the low water mark, and, therefore, found it unnecessary to locate the low water mark. However, in this case, the parties, by their pleadings and evidence, placed at issue the location of the low water mark, as the Placid-Todd Well No. 5 may be in close proximity thereof. Therefore, this Court will decide this issue from the evidence here presented and thoroughly considered.

Preliminary to a resolution of this issue the Court will first determine just what is a low water mark. This has apparently never been squarely decided by a Louisiana Court.

Black's Law Dictionary, 4th Edition, defines a water mark, as follows:

> "*Water Mark* — A mark indicating the highest point to which water rises, or the lowest point to which it sinks."

And, further defines Low Water Mark, as follows:

> "*Low Water Mark* — The low water mark of a river is the point to which the water recedes at its lowest stage."

In the early case of Payne Lumber Company v. U. S., 55 F. 854, the U. S. District Court, Eastern District of Wisconsin, gave the following definition of low water mark at pages 864 and 865:

> "*Low Water Mark*" is the point to which the river recedes at its lowest stage . . ."

In Vermont v. New Hampshire, 289 U. S. 593, 77 L. Ed. 1392, the United States Supreme Court decided the boundary between the two states was at the point to which the river receded at its lowest level, saying (289 U. S. 598, 77 L. Ed. 1394):

> "The line of low water mark thus specified was further defined as 'the point to which the river recedes at its lowest stage without reference to extreme droughts' and no exception has been taken to this definition."

Finally, in Wemple v. Eastham, et al, 150 La. 247, 90 So. 637 (1922), the Louisiana Supreme Court, through the late Chief Justice O'Neill, stated:

> "The bed of a navigable river — that is, the land which the state holds in her sovereign capacity — is only the land that is covered by the water at its ordinary low stage. The land lying between the edge of the water at its ordinary low stage and the line which the edge of the water reaches at its ordinary high stage — *that is, the highest stage that it usually reaches at any season of the year* — is called the bank of the stream." (Emphasis mine.)

Logic dictates that the corollary of this must also be true; i. e., that the *low water mark is the lowest stage that it usually reaches at any season of the year.*

From these authorities, this Court has defined "ordinary low water" as that stage of a river or stream to which the water usually recedes at any season of the year, unaffected by severe high water (floods) or droughts.

The Court will now review the evidence as presented in this case.

The plaintiffs offered the testimony of Mr. C. Howard Fenstermaker, a licensed Civil Engineer. Mr. Fenstermaker produced no maps, graphs, surveys, plats or other documentary evidence to locate the ordinary low water mark. (TR. Vol. III, p. 471). He did, however, describe on cross examination two methods of determining it. The first method is described as follows, on pages 474 and 475 of Vol. 3 of the Transcript.

FENSTERMAKER'S FIRST METHOD

> He averaged the low water gauge readings every day from 1934 to 1963, which average showed a mean low water mark of 1.0 feet above mean sea level at Verdunville or +.85 at Wax Lake Outlet. He did not take into account any differences between the high water season and the low water season.

FENSTERMAKER'S SECOND METHOD

> Using a Corps of Engineers' chart furnished him by plaintiff, Gulf Refining Corporation (not introduced as evidence), he determined the low water season each year from 1934 to 1963. He then calculated the low water elevation by

averaging all waters, high and low, that fell within the low water season. (TR. Vol. III, p. 477). This resulted in a low water mark of +.4 mean sea level at Verdunville Gauge. (TR. Vol. III, p. 478). Subtracting the stipulated .15 stream gradient from this +.4 produced a low mark at Wat Lake Outlet of +.25 feet.

The first method used by Mr. Fenstermaker is objectionable and must be rejected because it takes into consideration the low water stages during every day of every year, including periods of high water or flood which frequently occur during the spring. As Mr. Whittaker correctly stated on page 201 of Vol. I of the Transcript.

> "You would be adding high water conditions and bringing them into a determination of low water.
>
> The low water of a high water season is generally higher than the high water of a low water season."

The result would therefore not establish "the point to which the river recedes at its *lowest* stage", which point meets the definition of low water mark defined above.

The second method used by Fenstermaker is also subject to the same objection and must likewise be rejected. It is not an average of low water readings, but includes high water readings during low water seasons also. Averaging daily highs with daily lows during each low water season cannot result in a determination of low water marks.

It is noted that Mr. Fenstermaker did not give this evidence when called on direct, but rather gave it on cross examination. His evidence is not impressive and is rejected.

Defendants produced the testimony of Mr. William C. Smith, a Civil Engineer, who used one method of computing ordinary low water, and of Philip C. Whittaker, also a Civil Engineer, who used two methods. These methods are as follows:

No. 1
METHOD OF WILLIAM C. SMITH (TR. Vol. I, pp. 85-88)

> Gauge readings recorded by the U. S. Corps of Engineers were taken at Verdunville and at Morgan City from December, 1933, until September, 1965, and were examined for mean low water mark. During these thirty-three years the mean low water at Verdunville and at Morgan City were recorded on the same day during nineteen of the thirty-three years. These nineteen low water readings at Verdunville were averaged to determine mean low water there, and the same procedure was followed to determine mean low water at Morgan City. Then the mean low water at Morgan City was subtracted from the mean low water at Verdunville and the difference divided by the mileage (12.4) miles between the two gauges to determine a gradient of the surface of the stream per mile. This result was multiplied by two (the mileage from Verdunville to Wax Lake Outlet) to come up with mean low water at the intersection of Wax Lake Outlet and Six Mile

Lake. The result showed the mean low water at Wax Lake Outlet to be minus 1.37 feet. Smith's mean low water mark is shown on Exhibit D-79.

No. 2
WHITAKER'S FIRST METHOD (TR. Vol. I, pp. 169-173)

He first averaged the annual low tabulated by the United States Corps of Engineers at the Verdunville Gauge (Exhibit I-14) of the Six Mile Lake section of the Atchafalaya system between the year 1933-1962, inclusive. No readings were taken subsequent to the year 1962, because this gauge was moved to Cypress Island in early 1963. (TR. Vol. I, p. 169). These readings for the thirty years were averaged and showed a mean low water elevation of -1.25 feet mean sea level.

Since it was stipulated that the stream gradient between the gauge at Verdunville and Wax Lake Outlet is .15 (15/100ths) of a foot, this gradient was subtracted from the mean low water elevation of -1.25 at Verdunville, making the elevation at the Wax Lake Outlet minus 1.40 (-1.40') feet below mean sea level. The results of this method are shown as the mean low water line on Exhibit I-13, and on I-23.

WHITAKER'S SECOND METHOD (TR. Vol. I, pp. 192-196)

He first obtained a complete set of gauge records of the U. S. Corps of Engineers of the Verdunville Gauge as recorded during the period of 1933 to

1962 and from these records the daily highs and lows were tabulated, and from that tabulation a graph was drawn (Exhibit I-20) to show visually the water surface from year to year and to determine a low water season and a high water season during each particular year. He then averaged out the daily lows during the low water seasons over the entire thirty year period. (I-19). The result showed an ordinary low water line of +0.26 mean sea level, less the stipulated stream gradient of 0.15, indicating an ordinary low water mark at Wax Lake Outlet of +.11 feet above mean sea level. The low water mark as determined by this method is plotted on Exhibit I-19.

The method used by Mr. Smith is not considered to be sufficiently reliable because he used as a partial basis, the level of the water at the gauge in Morgan City. At Morgan City, or Berwick Bay, is where the entire Atchafalaya River reunites and flows to the Gulf of Mexico. Therefore, this gauge would reflect the level of the water there of the entire Atchafalaya River, while the gauge at Verdunville reflects only those waters flowing through Grand Lake-Six Mile Lake segment of the Atchafalaya River.

Both methods employed by Mr. Whitaker appear to be logical and well considered. However, for the reasons hereinafter set forth, the Court is more impressed with the second or so called alternative "seasonal-low" method.

In the first place, this method, by averaging out the daily lows and daily highs and then determining low water season of the year, eliminates the high water season from

consideration. Next, the daily highs during the low water season are eliminated, leaving a thirty year average of the daily lows during the low water season, which results in the ordinary or usual low water mark, without consideration of unusual droughts or high water. It is a reliable and acceptable method of determining the ordinary low water mark; i.e., the lowest point to which the water usually recedes at the lowest season of the year.

Another most important reason for accepting this second method of Mr. Whitaker's is that it compares almost identically with the data of the United States Corps of Engineers.

Exhibit I-12-C, bearing the caption, "The Corps of Engineers, Atchafalaya River, U. S. Army", fixes the mean low water at Lower Grand River (Verdunville Gauge) at elevation +0.1 which is one-tenth of a foot above mean sea level. Allowing for the stream gradient of .15 to Wax Lake Outlet would establish the mean low water at Wax Lake Outlet of -.05 (5/100ths of a foot) below mean sea level. (See: TR. Vol. I, p. 199).

This figure compares very closely with Whitaker's figure of +.11 feet mean sea level, as opposed to -.05 feet below mean sea level for the Corps of Engineers, or only sixteen hundredths (16/100ths) of a foot difference, or, in effect, no significant difference between the two findings. (TR. Vol. I, p. 200). Whitaker testified that if the -.05 below mean sea level line were plotted on Exhibit I-13, it would fall practically right over the 0.0 mean sea level line thereon shown. The 5/100ths of a foot might make a difference of two to three feet horizontally on the ground. (TR. Vol. I, p. 200).

Additionally, Mr. Whitaker made a detailed study of a Hydrographic Survey of the United States Corps of Engineers of Six Mile Lake, Vicinity of Wax Lake Outlet, dated June, 1956, and in evidence as Exhibit I-11. The elevation shown on this Hydrographic Survey of 1956 (I-11) enabled Whitaker to locate where the -1.4 contour line should be placed on Exhibit I-13. (TR. Vol. I, p. 179). Mr. Whitaker prepared an overlay to Exhibit I-11, which is Exhibit I-15, which shows Section 68 and portions of Sections 49, 50, 51, 60, Sections 2 and 58, and the A. L. Fields meander line. It shows the ordinary low water line contour as it would have been placed on June, 1956. It also shows the 0.0 mean sea level contour line. (TR. Vol. I, p. 177). Of most significance, both I-13 and I-15 show the locations of Todd-Placid Wells Nos. 3, 4 and 5, and *all are above* (or south of) the ordinary low water mark and the 0.0 mean sea level line. (TR. Vol. I, p. 180).

Another study made by Whitaker to verify his findings are the profiles of Range Line 1440, as shown on Hydrographic Surveys by the Corps of Engineers, (I-11) which is in evidence as I-16, and as located on I-13. This Hydrographic Survey line runs from the point of beginning, northerly, along the area in question, along Range Line 1440. (TR. Vol. I, p. 181). It is shown on Exhibit I-13 as X and Y and also as X and Y on Exhibit I-16). The Exhibit I-16 shows the 0.0 mean sea level line and the -1.4 mean low water colored in red. (TR. Vol. I, p. 186-187).

The testimony and supporting exhibits of Mr. Whitaker, and the data of the United States Corps of Engineers, as well as the testimony of the lay witnesses, have convinced the Court that all three of the Placid-Todd Wells lie above the mean sea level or any of the mean low

water lines, as established by any of the methods of defendants' witnesses. They further convince the Court that the ordinary low water mark should be fixed according to the alternative seasonal method (2nd method) used by Mr. Whitaker, at +0.11 (eleven hundredths of a foot) above mean sea level, and, therefore, defendants, owners of the riparian lands, are entitled to the ownership of all lands extending from the shore to the low water mark thus established.

RECAPITULATION

The Court, based on the law and the evidence in this case, has held:

1. The State of Louisiana, as a matter of law, by virtue of her inherent soverignty, owns the bed or bottom of Six Mile Lake up to the ordinary low water mark.

2. Six Mile Lake, as a matter of fact and of law, is not a lake, but is a stream, and was a stream prior to 1812, to which the provision of Article 509 R.C.C. applies.

3. The property in question is partly riparian property and partly alluvion — the alluvion having built-up successively and imperceptibly.

4. The Court has located the ordinary low water mark in the area in question.

Having done so, all of the issues between the parties

presented in this law suit are deemed resolved. The Court is aware that there remain certain other matters to be concluded, such as fixing fees of experts and attorneys appointed to represent absent parties. The Court will allow counsel time to confer and present appropriate motions to accomplish this.

For the above and foregoing reasons, Judgment will be rendered herein in favor of defendants and intervenors, and against plaintiffs, rejecting plaintiffs' demands at plaintiffs' costs.

A formal Judgment in accordance with these reasons will be read, rendered and signed in open court when presented to the Court.

THUS DONE AND SIGNED in Chambers at Franklin, St. Mary Parish, Louisiana, this 24th day of September, A.D., 1970.

(Signed) EDWARD A. de la HOUSSAYE, III
Edward A. de la Houssaye, III
District Judge

APPENDIX "B"
OPINION OF COURT OF APPEAL

(Date of Entry: December 26, 1972)

STATE OF LOUISIANA AND	STATE OF LOUISIANA
GULF OIL CORPORATION	COURT OF APPEAL
versus	FIRST CIRCUIT
PLACID OIL COMPANY, ET AL.,	
TEXACO, INC., INTERVENOR	NUMBER 8878

APPEAL FROM THE SIXTEENTH JUDICIAL DISTRICT COURT, ST. MARY PARISH, HONORABLE EDWARD A. DE LA HOUSSAYE, III, PRESIDING JUDGE.

BEFORE: LANDRY, SARTAIN, ELLIS, BLANCHE AND TUCKER, JJ.

BLANCHE, J.

The State and its mineral lessee, Gulf Oil Corporation (State-Gulf), appeal from judgment rejecting the State's petitory action to be declared owner of three parcels of land lying below the ordinary high water mark of Six Mile Lake adjacent to Sections 49, 50 and 68, Township 15 South, Range 11 East, St. Mary Parish, and also for an accounting of the proceeds of three oil wells drilled thereon

by defendant, Placid Oil Company (Placid), designated as S. G. Todd Wells, 3, 4, and 5. The trial court based its decision upon finding that Six Mile Lake is a stream, the bed of which is owned by the State only to the ordinary low water mark (Louisiana Civil Code Article 455), and to which Louisiana Civil Code Article 509 applies, thereby making the alluvion involved the property of the riparian landowners.

In addition to Placid, J. Ray McDermott & Company, Inc. (McDermott), assignee of Placid, was also made defendant. Pursuant to exceptions of non-joinder of indispensable parties filed by Placid and McDermott, numerous alleged owners (from whom Placid acquired mineral leases) were also made defendants by various supplemental and amending petitions filed by State-Gulf. Texaco, Inc. (Texaco), which owns an undivided one-half of Section 68, and certain parties claiming interests in Section 68 adversely to Texaco, intervened asserting interests in opposition to State-Gulf. The conflicts between Texaco and its adversaries regarding Section 68 have been compromised. All said parties have united in resisting the claims of State-Gulf. Some disputes exist among defendants regarding their ownership of subject sections. It was agreed by stipulation that all such controversies be relegated to future resolution among the parties concerned, should defendants as a class defeat the State's claim of ownership.

Sections 49, 50 and 68 all about the south shore of Six Mile Lake. It is conceded that the traverse line of these sections, as shown on the official plat of Township 15 South, Range 11 East, Louisiana Meridian, approved by the State Surveyor General May 19, 1842, constitutes the

northern boundary of these sections. It is also acknowledged that the traverse line thus established is predicated upon a survey by A. L. Fields, in 1837, whose plat and field notes are of record in the archives of the Register of the State Land Office, a copy thereof being of record herein. Further conceded is the fact that Grand Lake-Six Mile Lake was a navigable body of water upon the State's admission to the Union in 1812.

The record establishes that when separated from the Federal Government by patents dated June 1, 1848, August 21, 1845, and January 1, 1849, Sections 49, 50 and 68 contained 172.87 acres, 447.58 acres, and 86.63 acres, respectively. It is conceded that upon trial of this matter in 1967, a vast amount of acreage had been added to Sections 49 and 50 in the form of alluvion that had built out northerly from the traverse line of those sections. As regards Section 68, it is conceded that the area in dispute, lying north of its traverse lines, is approximately three times the size of that section lying south of its traverse line.

State-Gulf contends the State acquired title to the beds of all navigable waters in the state, whether lakes, rivers or streams, up to the ordinary high water mark, upon the State's admission to the Union in 1812. Defendants conceded the State's acquisition to the ordinary high water mark in the case of lakes. In the case of rivers and streams, defendants maintain the State acquired title to beds and bottoms only to the ordinary low water mark, and that the banks of rivers and streams, that is, the area lying between ordinary high water and ordinary low water marks, belongs to the riparian owners, together with all alluvial additions thereto.

Defendants assert title through the patentees of the respective sections. Placid and McDermott hold mineral leases from the patentees' successors in title and rely upon the validity of their lessors' titles. Alternatively, Placid asserts that if the State be declared owner of the property in dispute, Placid holds a valid lease thereon from the State dated February 24, 1960, bearing Lease Number 3643, covering Tract Number 7722. In this regard, Placid contends that the State's lease to Gulf, Number 2963, dated April 18, 1956, covering Tract Number 6453, does not include the property in controversy. Texaco is not concerned with this issue.

In proof of its case in chief, State-Gulf produced the official Township Plat of Section 15 South, Range 11 East, and Fields' supporting field notes. State-Gulf also produced the lease between themselves and the leases from defendants to Placid together with Placid's assignment to McDermott. In addition, State-Gulf offered testimony showing that the allegedly offensive wells are located north of the traverse line of Sections 49, 50 and 68. State-Gulf also offered a stipulation showing the value of oil produced by Placid from subject tracts. By voluntary motion, State-Gulf dismissed its action against McDermott insofar as concerns their demand for an accounting of oil produced. It was further stipulated that Placid alone would be responsible for the value of minerals produced in the event State-Gulf prevailed herein.

After producing the foregoing proof in chief, State-Gulf rested its case contending that it thus made out a prima facie showing of its title and defendants' trespass, thereby shifting the burden to defendants to prove title from the State. In substance, State-Gulf argued that if de-

fendants own the disputed lands, they acquired title thereto from the State pursuant to state law which vests title to the banks of navigable rivers and streams and all alluvion which attaches thereto in the riparian owners. Therefore, State-Gulf contends it was incumbent upon defendants to defeat the State's title by showing that the areas in question were the banks of a river or stream or alluvion thereto attached. Alternatively, State-Gulf contended that if the State did not have title to the areas in dispute, the State's lease Number 2963 to Gulf, dated April 16, 1956, is nevertheless valid pursuant to Act 341 of 1952, LSA-R.S. 9:1151, which provides that where a change in ownership occurs as a result of the action of a navigable lake, stream or bay, the new owner of such lands or water bottoms, including the State, takes the same subject to all oil, gas and mineral leases affecting such lands or water bottoms, and also subject to the rights of the mineral owners, their heirs, successors and assigns.[1]

Upon State-Gulf resting their case, Placid, McDermott and certain other defendants filed exceptions of no cause and no right of action, based primarily on the contention

---

1 LSA-R.S. 9:1151 reads as follows:

"In all cases where a change occurs in the ownership of land or water bottoms as a result of the action of a navigable stream, bay or lake in the change of its course or bed or as a result of accretion, dereliction, or other condition resulting from the action of a navigable stream, bay or lake, the new owner of such lands or water bottoms, including the state of Louisiana, shall take the same subject to and encumbered with any oil, gas and/or mineral lease covering and affecting such lands or water bottoms, and subject to the mineral and royalty rights of the lessors in such lease, their heirs, successors and assigns, the right of the lessee or owners of such lease and the right of the mineral and royalty owners thereunder to be in no manner abrogated or affected by such change in ownership."

the State failed to prove its title to the disputed areas, which a plaintiff is required to do in a petitory action. Exceptors so urged below, and reurge here, that the failure of the State to prove whether Six Mile was a lake, at the time of the State's admission to the Union in 1812, is fatal to the State's claim of ownership. It is exceptors' position that the State did not acquire title to subject property unless Six Mile Lake was a lake at the moment of statehood. Exceptors also contend that if Six Mile Lake was a river or stream in 1812, title to the banks thereof (that is the area between ordinary high water and ordinary low water) remained in the then owner, the Federal Government, and was transmitted to defendants through defendants' ancestors in title, the original patentees from the Federal Government in the 1840's. Defendants argue that if Six Mile Lake is a river or stream, it was incumbent upon the State to establish in chief that the property in question lies below the ordinary low water mark of that water body because the State owns the beds and bottoms of rivers and streams only to the ordinary low water mark. Failure of the State to establish the low water mark of Six Mile Lake left unproved an indispensable element of the State's claim. For reasons hereinafter set forth, we find no error in the judgment of the trial court overruling defendants' exceptions of no cause and no right of action.

Upon overruling of defendants' exceptions of no right and no cause of action, defendants, under protest, proceeded to establish their claims of ownership. Following presentation of defendants' case, State-Gulf rebutted. Near the end of the lengthy trial, defendants filed exceptions of res judicata, stare decisis and estoppel based primarily upon the ruling of this court in *State v. Cockrell,*

162 So.2d 361 (La.App. 1st Cir. 1964), certiorari denied, 246 La. 343, 164 So.2d 350.

The trial judge rendered judgment overruling defendants' exceptions of res judicata, stare decisis and judicial estoppel. On the merits the trial judge rendered judgment against State-Gulf dismissing their demands; decreeing that the land area comprised of that bounded on the south by the traverse line abutting Sections 49, 50 and 68, Township 15 South, Range 11 East, St. Mary Parish, and north to the ordinary low water mark of Six Mile Lake to be the property of the riparian landowners of these three sections; decreeing the ordinary low water mark of Six Mile Lake as of July 8, 1963, the date of the filing of this suit, to be a line having an elevation of plus 0.11 feet above mean sea level, subject to such changes, if any, in said line as may subsequently result from accretion, reliction, or dereliction; ordering State lease Number 2963, dated April 18, 1956, to Gulf Refining Company, and State lease Number 3643, dated February 24, 1960, to Placid Oil Company, cancelled and annulled insofar as said leases purport to cover and affect any of the property as described in the judgment and the subject of this suit; and taxing as costs against State-Gulf, in solido, expert witness fees for Placid Oil Company in the sum of $31,733.29, and in favor of Texaco, Inc., the sum of $31,345.94. The judgment of the trial court contained other decrees not pertinent to this appeal.

No mention was made by the trial judge either in the judgment or in his Written Reasons for Judgment of Act 341 of 1952, LSA-R.S. 9:1151. In their appeal State-Gulf contended the trial court erred in:

(1) Holding the State acquired ownership of the beds and bottoms of navigable rivers and streams only to the ordinary low water mark;

(2) Finding Six Mile Lake is a stream within the meaning of the term as used in LSA-C.C. art. 509, and was a lake in 1812;

(3) Concluding subject areas are alluvion which formed in the bed of Six Mile Lake subsequent to 1812, and is now owned by defendants, except Placid and McDermott, and are not encompassed in State's Lease 2963 held by Gulf;

(4) Decreeing that part of the land which formed the banks of the stream in 1812 (the area between ordinary low water and ordinary high water) belonged to the owners of the adjoining land;

(5) Recognizing defendants, except Placid and McDermott, to be owners of those lands lying between the ordinary low water mark and ordinary high water mark of Six Mile Lake, and ordering cancellation of State Lease 2963 to Gulf covering said lands, notwithstanding the provisions of Act 341 of 1952, LSA-R.S. 9:1151;

(6) Adopting the method of determining ordinary low water in Six Mile Lake, known as

the "seasonal low," employed by defendants' witness, Philip C. Whitaker;

(7) Taxing State-Gulf for expert witnesses' fees incurred by Placid and Taxaco in exorbitant, unjustified amounts which included payment for time spent by experts in assisting Placid and Texaco in the preparation of their cases, contrary to law and in abuse of the trial court's discretion in such matters;

(8) Taxing costs against State-Gulf in solido. In this regard, State claims it is liable only for stenographer's fees and Gulf maintains it is only a nominal party and should not be cast at all.

PEREMPTORY EXCEPTIONS URGING NO CAUSE AND NO RIGHT OF ACTION

State-Gulf urges that defendants' failure to appeal or answer appellants' appeals procedurally bars consideration on this appeal of defendants' exception urging no cause and no right of action based on the alleged failure of State-Gulf to establish the State's title to the ordinary high water mark of Grand Lake-Six Mile Lake, which exception was overruled by the trial court. In so contending, State-Gulf relies upon *Alphonso v. Alphonso,* 160 So.2d 294 (La.App. 1st Cir. 1964), and *Food Town, Incorporated v. Town of Plaquemine,* 174 So.2d 833 (La.App. 1st Cir. 1965).

An appeal may be taken only from a final judgment or an interlocutory judgment which causes irreparable injury. LSA-C.C.P. art. 2083. A final judgment determines the merits in whole or in part; an interlocutory judgment is one which does not determine the merits but only decides preliminary matters in the course of the action. LSA-C.C.P. art. 1841.

LSA-C.C.P. art. 2133 provides that an appellee is not required to answer an appeal unless he desires to have the judgment modified, revised or reversed in part or unless he demands damages against the appellant.

A judgment overruling an exception of no right of action does not decide the merits in whole or in part; therefore, it is not a final judgment but an interlocutory decree. Such a judgment does not cause irreparable injury, consequently, it is a nonappealable judgment. LSA-C.C.P. arts. 1841, 2083. Defendants could not have appealed the judgment dismissing their exception of no right of action.

Our present LSA-C.C.P. art. 2133 is patterned upon Articles 591, 592, 886 through 889 and 890 and 891 of our former Code of Practice of 1870. The Redactor's Comment to Article 2133, above, however, notes that no change was intended to be made in the prior law as established by the above-mentioned articles and the jurisprudence interpreting same.

Prior to *Succession of Markham,* 180 La. 211, 156 So. 225 (1934), numerous cases held in effect that if an appellee wished to reurge on appeal an exception which had been overruled below, it was necessary to either

appeal or answer the appeal. *Markham*, above, however, expressly overruled this line of jurisprudence, and held that Articles 888 and 592 of the Code of Practice did not require an appellee to appeal or answer an appeal to reurge before the appellate court exceptions which had been overruled by the trial court. The rule announced in *Markham*, above, was followed in *Schwandt v. Nunez*, 71 So.2d 583 (La.App. Orl. Cir. 1954), and numerous other cases such as *Brown v. Garner*, 157 So. 136 (La.App. 2nd Cir. 1934); *Columbia Oil Company v. Police Jury of Natchitoches Parish*, 194 So. 91 (La.App. 2nd Cir. 1940); *McGee v. Demery*, 176 So.2d 679 (La.App. 4th Cir. 1965); and *Stevenson v. Roy*, 194 So.2d 424 (La.App. 4th Cir. 1967).

The ruling of this Court in *Alfonso* and *Food Town, Incorporated*, did not discuss *Markham*, which apparently was not brought to the Court's attention by counsel therein. In any event, it is clear that our rulings in these cases are patently at odds with the overwhelming weight of authority and cannot prevail in view of the Supreme Court's ruling in *Markham*, above. We conclude that the failure of defendants to appeal or to answer appellants' appeal does not procedurally bar our considering defendants' exceptions.

We further conclude, however, that the peremptory exception urging no cause and no right of action filed by defendants at the conclusion of the presentation of plaintiffs' case had to be overruled by the trial court for the simple reason that the peremptory exception cannot be used under Louisiana law as a substitute for the common law motion for a directed verdict or demurrer to the evidence.

The foregoing principle was expressly recognized and applied by the Third Circuit Court of Appeal in *Joseph v. Tri Parish Flying Service, Inc.*, 201 So.2d 321 (La.App. 3rd Cir. 1967), the following excerpt from which opinion we reproduce herein with approval:

> "It is now well established by our jurisprudence that an exception of no cause of action cannot be used to test the sufficiency of plaintiffs' evidence to prove a cause of action which he has properly pleaded. Williams, et al. v. Missouri Pacific Railroad Company, 6 So.2d 79 (La.App. 2nd Cir. 1941, certiorari denied); Bartholomew v. Impastato, 12 So.2d 700 (Orl. App. 1943); Domite v. Thompson, 9 So.2d 55 (La.App. 2nd Cir. 1942); Home Insurance Company of New York v. I. R. & G. Company, et al., 43 So.2d 504 (La.App. 2nd Cir. 1949); Kennedy v. Perry Timber Company, 219 La. 264, 52 So.2d 847 (1951); Roy O. Martin Lumber Company v. St. Denis Securities Company, 225 La. 51, 72 So.2d 257 (1964); Kline v. Dawson, 230 La. 901, 89 So.2d 385, footnote 1, at page 387 (1956); Fister v. Fister, 131 So.2d 103 (La.App. 3rd Cir. 1961); Pflieger v. Haws, 180 So.2d 892 (La.App. 1st Cir. 1965).
>
> "In Bartholonew v. Impastato, supra, with then Judge, now Justice, McCaleb, as the organ of the court, it is stated:
>
> > 'Motions for judgment, directed verdicts and demurrers to evidence are procedural pleadings of the common law which are un-

known in our system. See Williams v. Missouri Pac. R. Co., supra. And, they may not be invoked in Louisiana by disguising them with the label of exception of no right or cause of action. If the defendant doubts the sufficiency of the evidence submitted by plaintiff to sustain his demand and does not see fit to contradict the evidence which has been submitted, he unquestionably has the right to have the court determine the sufficiency of plaintiff's evidence by resting his case. In such instances, a judgment should be rendered on the merits in favor of one side or the other — but not on an exception of no cause of action — for that exception challenges the legality of the cause alleged and does not pertain to the trial on the merits.'

"It is true that most of the above cited cases were decided before the adoption of our new Code of Civil Procedure in 1960. However, the new code, like the old Code of Practice, makes no provision for a procedural device similar to the motion for directed verdict or demurrer to the evidence, used in many common law jurisdictions. It thus appears that the redactors of our new code have made a deliberate policy choice not to change the law in this regard." (*Joseph v. Tri Parish Flying Service, Inc.*, 201 So.2d at 322, 323)

THE BURDEN OF PROOF ISSUE

Defendants contend that this is a petitory action in which State-Gulf must bear the burden of proof by establishing the State's alleged title in presenting the State's case in chief. This, according to defendants, State-Gulf has not done. In so contending, defendants maintain that the State's title to the beds and bottoms of navigable waters is derivative, not original, in that it comes from the Federal Government upon the State's admission to the Union. Defendants concede that at the moment of statehood, state and federal domain with respect to all navigable water bodies, regardless of classification as streams, lakes, rivers, or otherwise, were divided or separated at the ordinary high water mark. Defendants contend, however, upon authority of *Shively v. Bowlby*, 152 U.S. 1, 14 S.Ct. 548 (1894), *Hardin v. Jordan*, 140 U.S. 371, 11 S.Ct. 808 (1891), and *United States v. Gossett*, 277 F.Supp. 11 (1967), that the extent of title which a state receives in and to the beds and bottoms of navigable waters is determined by state law. Therefore, according to defendants, what the State of Louisiana received by way of title to the beds of navigable water bodies depended upon state law in existence when Louisiana was admitted to the Union in 1812. In 1812, the Louisiana law on the subject was Article 8 of the Code of 1808, which provided:

> "The use of the shores of navigable rivers or creeks is public; accordingly every one has a right freely to bring his ships to land there, to make fast the same to the trees which are there planted, to unload his vessels, to deposit his goods, to dry his nets and the like. Nevertheless the property of the river shores belong (belongs) to those who possess the adjoining lands."

The above provision was retained as Article 446 of the Code of 1825 and Article 455 of the Code of 1870 except that the word "shores" was changed to "banks." Article 448 of the Code of 1825 and Article 457 of 1870 defined banks of a river or stream to be that which contains it in its ordinary state of high water, although such areas may be overflowed for a time.

Based on the foregoing provisions, defendants contend that upon admission to the Union, the riparian owners became vested with title to the banks of rivers and streams, that is, the area between ordinary high and ordinary low water. The State, according to defendants, acquired title to high water mark only in the case of lakes. Consequently, defendants contend, it was incumbent upon the State to prove that the water body was a lake in 1812. It is defendants' position that it was insufficient for the State to prove merely that the disputed lands lay below high water, because if Six Mile Lake is a river or stream, the land belongs to defendants if it lies above ordinary low water.

In substance, defendants claim title from the Federal Government by operation of state law, which limits the effect of what the State received upon admission to statehood. We reject this interpretation. The import of the argument is that a state law which disposes of what the State acquires is, by the same token, a limitation of what the State received. We interpret the 1808 article not as a limitation of what the State received from the Federal Government, but rather an expression of sovereign intent to establish rights to what the State acquired. As between the Federal Government and the State, it is conceded that the separation is effective at the high water mark. If the

Federal Government, or anyone else owns anything below the high water mark after a State's admission to the Union, such ownership stems from state law. We find this conclusion accords with the Federal jurisprudence as established in *Shively v. Bowlby,* above, and *Hardin v. Jordan,* above.

In *Shively,* plaintiff sued defendant to quiet title to land situated in Oregon below the high water mark of the Columbia River. Plaintiff's title derived from one J. Shively who obtained title from the U.S. Congress in 1850, while Oregon was still a territory, the deed calling for lands below the high water mark. Later, plaintiff acquired the lands below the high water mark from the State of Oregon. Defendant claimed the land by conveyance from J. Shively, the dispute concerning lands not included in J. Shively's deed to plaintiff, but included in plaintiff's deed from the state. Plaintiff's claim was based on the conveyance from the state; defendant's claim depended upon the congressional grant to J. Shively. The Court determined plaintiff to be the owner on finding that the property below the high water mark was not included in the grant to J. Shively prior to Oregon's statehood. However, the Court clearly recognized the right of Congress to convey lands below navigable waters prior to statehood, but noted that such had not ever been done by general laws, but only in special cases involving some international duty or public interest. The Court also made it clear that when a state was created from a former territory, the laws of the state determined ownership of lands underlying navigable waters. In this regard, we quote the following from *Shively,* above:

"The new states admitted into the Union since the adoption of the constitution have the same rights as the original states in the tide waters, and in the lands under them, within their respective jurisdictions. The title and rights of riparian or littoral proprietors in the soil below high-water mark, therefore, are governed by the laws of the several states, subject to the rights granted to the United States by the constitution.

"The United States, while they hold the country as a territory, having all the powers both of national and of municipal government, may grant, for appropriate purposes, titled or rights in the soil below high-water mark of tide waters. But they have never done so by general laws, and, unless in some case of international duty or public exigency, have acted upon the policy, as most in accordance with the interest of the people and with the object for which the territories were acquired, of leaving the administration and disposition of the sovereign rights in navigable waters, and in the soil under them, to the control of the states, respectively, when organized and admitted into the Union.

"Grants by congress of portions of the public lands within a territory to settlers thereon, though bordering on or bounded by navigable waters, convey, of their own force, no title or right below high-water mark, and do not impair the title and dominion of the future state, when created, but leave the question of the use of the shores by the owners of uplands to the sovereign

control of each state, subject only to the rights vested by the constitution in the United States." (*Shively v. Bowlby,* 14 S.Ct. 548, 569, 570)

In *Hardin v. Jordan,* above, the issue was whether a riparian owner's title stopped at the water's edge or went to the middle of a lake. Plaintiff claimed through a patent from the Federal Government. In considering the extent of land conveyed by the patent to plaintiff's ancestor in title, the Court noted:

> "With regard to grants of the government for lands bordering on tide-water, it has been distinctly settled that they only extend to high-water mark, and that the title to the shore and lands under water in front of lands so granted inures to the state within which they are situated, if a state has been organized and established there. Such title to the shore and lands under water is regarded as incidental to the sovereignty of the state, — a portion of the royalties belonging thereto and held in trust for the public purposes of navigation and fishery, — and cannot be retained or granted out to individuals by the United States. * * *
>
> "This right of the states to regulate and control the shores of tide-waters, and the land under them, is the same as that which is exercised by the crown in England. * * * but it depends on the law of each state to what waters and to what extent this prerogative of the state over the lands under water shall be exercised. * * *" (*Hardin v. Jordan,* 11 S.Ct. 808, 811, 812)

Choctaw Nation v. Oklahoma, 397 U. S. 620, 90 S.Ct. 1328 (1970), and *United States v. Alaska,* 423 F. 2d 764 (1970), do not support defendants' claim that their patentee ancestors in title derived ownership directly from the Federal Government. *Choctaw Nation* involved lands underlying the Arkansas River, in areas patented to several Indian nations, in what is now Oklahoma, prior to Oklahoma's statehood. The Indians were held to have rights superior to those of a mineral lessee from the state. This decision accords with *Shively,* above, which fixed ownership of all territorial navigable water bodies in the United States, and represents one of the special instances wherein the United States disposed of such areas before the territory became a part of the Union.

United States v. Alaska, above, is clearly another such special instance as envisioned in *Shively.* Alaska involved the beds of water bodies situated in a wildlife preserve created by Congress prior to Alaska's statehood. A state-granted mineral lease on lands underlying navigable waters within the preserve was held invalid on the ground that the United States had the right and power to grant title to lands which would otherwise go to the states on admission to the Union.

In summary, we hold that upon admission to the Union, Louisiana obtained title to the beds of all navigable waters below the high water mark, and that defendants' claiming through a patent issued by the Federal Government following Louisiana's statehood, take and derive their title from the State of Louisiana. It follows that the State of Louisiana, upon showing that subject wells are located in the bed of a navigable water body, below the ordinary high water mark, made out a prima facie case of

the State's ownership and defendants' trespass thereon. It thereupon devolved upon defendants to establish title from the State. *State v. Aucoin,* 206 La. 786, 20 So.2d 136 (1944).

EXCEPTIONS AND PLEAS URGING RES JUDICATA, JUDICIAL ESTOPPEL, AND STARE DECISIS

The trial court properly overruled defendants' exceptions and pleas urging res judicata, judicial estoppel and stare decisis. Res judicata applies only where the thing demanded is the same; the demand is founded on the same cause of action; and the demand is between the same parties opposing each other in the same quality, LSA-C.C. art. 2286. In this instance, there is no such identity of the respective litigants in this case as compared with the case of *State v. Cockrell,* cited *supra,* since defendants herein were not parties in *Cockrell,* nor is the demand the same or brought against the same parties in the same capacity. *Cockrell* involved title to lands adjoining Sections 45 and 46 in the same township and range as subject properties, whereas this litigation involves lands adjacent to or abutting Sections 49, 50 and 68.

The plea of judicial estoppel is likewise not well founded, inasmuch as this doctrine, to the extent that it has applicability in Louisiana law, contemplates the identity of parties in subsequent litigation compared with prior litigation, and an attempt by the party against whom the doctrine is urged to rescind or change an admission made in the prior litigation. No such attempted alteration or inconsistent allegations or admissions on the part of State-Gulf have occurred herein.

Defendants' plea of stare decisis is likewise unfounded, inasmuch as in Louisiana courts are not bound by the doctrine of *stare decisis*, but there is recognized instead in Louisiana the doctrine of *jurisprudence constante*, *Johnson v. St. Paul Mercury Insurance Company*, 256 La. 289, 236 So.2d 216, 218 (1970).

CLASSIFICATION OF SIX MILE LAKE AS A STREAM

The trial court properly concluded that the body of water known as Six Mile Lake constitutes a stream as opposed to a lake, thereby making applicable the rules of property provided by LSA-C.C. arts. 455 and 509.

The rule of *State v. Erwin*, 173 La. 507, 138 So.84 (1931), as to what constitutes a lake has been overruled *sub silentio* in *Amerada Petroleum Corporation v. State Mineral Board*, 203 La. 473, 14 So.2d 61 (1943), hereinafter referred to as "first *Amerada*"; *Amerada Petroleum Corporation v. Case*, 210 La. 630, 20 So.2d 431 (1946), hereinafter referred to as "second *Amerada*"; *Esso Standard Oil Company v. Jones*, 233 La. 915, 98 So.2d 236 (1957); and *State v. Cockrell*, 162 So.2d 361 (La.App. 1st Cir. 1964), writ refused, 246 La. 343, 164 So.2d 350.

In first *Amerada* the Supreme Court in 1943 established clear and finite definitions concerning the classification of a body of water as a lake versus a stream or a river:

"It will be noted, from an examination of the quoted portion of his opinion, the trial judge holds that the body of water known as the arm of Grand Lake can not be classified as a river, because it does not possess well defined banks or walls as are required of rivers, and, on the other hand, that it can not be classified as a lake, because its waters are not still or dead and they are not supplied from drainage as is required of lakes. However, his holding is that the arm of Grand Lake is a body of flowing water, and therefore it constitutes a stream within the meaning of the term, 'or other stream' referred to in Article 509 of the Civil Code. *He reasons very logically* that the 'other stream' referred to in the article includes streams falling into the category of rivers. This inclusion covers the case here, because the stream involved possesses all the characteristics of a river *in its ability to remove and deposit the soil.*

* * * *

"The trial judge held that the arm of Grand Lake is a stream of flowing water and that Article 509 of the Civil Code applies to the alluvion on its banks. Regardless of the characterization of the water as a river or merely as a flowing stream, the conclusion reached by the trial judge is correct." (*Amerada Petroleum Corporation v. State Mineral Board,* 14 So.2d, at 69, 72 — Emphasis added)

First *Amerada* was followed in 1946 by second *Amerada* wherein the Louisiana Supreme Court classified land in question as alluvion formed in arm of Grand Lake, and hence belonging to the owner of the riparian property pursuant to LSA-C.C. art. 509, rather than belonging to the State. This decision necessitated a continued classification of the body of water as a running stream, thereby making applicable Article 509 of the Civil Code, rather than as a lake, to which Article 509 does not apply.

The Louisiana Supreme Court next addressed itself to this question in *Esso Standard Oil Company v. Jones,* cited *supra.* In this case the Supreme Court again quoted approvingly from the trial judge's classification of an abandoned Mississippi River cut-off as a running stream to which the rule of alluvion set forth in Article 509 applied, rather than as a lake, because, *inter alia* of the stream's ability to carry alluvion and deposit it along its banks:

> " 'In the present case at the present time there is not a constant or continuous flow at low water around the bendway every day in every year, but definitely the bendway is not a lake. When it does flow it is not drainage and the bendway gets its water from the main body of the Mississippi River. A stream is not required to flow every minute of the time. In this case the bendway is

characterized by definite banks on each side, a definite bed, a natural current always downstream with the main body of the Mississippi River being the source of water supply. *The current is capable of carrying alluvion and of depositing it along the banks.* These characteristics fulfill every possible requirement of a stream and prevent the Deer Park Bend channel from being classified as a lake or pond up to this time. That location may change some time in the future becoming a dead lake, but it has not done so at this writing.' " *(Esso Standard Oil Company v. Jones,* 98 So.2d, at 244 — Emphasis added)

Then came this Court's opinion in *State v. Cockrell,* cited *supra,* which dealt with the very same body of water and much of the same land mass and surrounding land areas. This Court in *Cockrell* reviewed the trial court's findings of fact, and on the basis thereof made findings comparable to the trial court, holding as follows:

"We conclude, therefore, Six Mile Lake is a stream as distinguished from a lake *considering it is shown to be a body of water containing currents of sufficient velocity to carry alluvial materials.* Moreover, the record conclusively shows the flow of water entering Six Mile Lake and causing its currents is not the result of

drainage but the natural movement or flow of the waters of the Atchafalaya River passing through the waterway known as the Atchafalaya Basin on its way to the sea. Because the banks of Six Mile Lake are not well defined as in the case of rivers, the body of water in question must be characterized as a stream rather than a river. Technically speaking, Six Mile Lake appears to be a segment of the Atchafalaya River. The record in the case before us leaves not the slightest doubt but that Six Mile Lake does in fact annually carry off a substantial portion of the tremendous volume of water flowing to the sea through the Atchafalaya River. It further appears beyond question, this condition antedated 1812 and has continued to the present time.

"It follows, therefore, Six Mile Lake was a stream in 1812 within the meaning and intendment of the term 'other stream' as used in Article 509, LSA-C.C., consequently the provisions of said article are applicable to the case at bar as held by the learned trial court." (*State v. Cockrell*, 162 So.2d, at 373 — Emphasis added)

It is significant to note that the Supreme Court denied the State's application for a writ of review, without any dissent, stating that, "[on] the facts found by the Court of Appeal *we find no error of law* in the judgment complain-

ed of." (*State v. Cockrell,* 246 La. 343, 164 So.2d 350 — Emphasis added) By denying the application for certiorari or writ of review in *State v. Cockrell,* the Louisiana Supreme Court obviously sanctioned this Court's opinion based on its adherence to first *Amerada,* second *Amerada* and *Esso Standard Oil Company v. Jones* and this Court's concomitant refusal to apply the conflicting standard for classifying a body of water as a lake versus a stream as set forth in *State v. Erwin,* cited *supra.*

The record contains ample evidence supporting the trial judge's conclusion that Six Mile Lake factually is a running stream within the meaning of the statutory law and afore-mentioned jurisprudence, as distinguished from a lake. Dr. Reinhard A. Steinmayer, geologist, testified that the entire Atchafalaya Basin, as well as Six Mile Lake, has the characteristics of a stream in that it is a body of flowing water which follows a longitudinal trench and has the power to erode and transport sediments. He found that the waters of the stream swing lazily from shore to shore. Examination of alluvial fans at the head of Grand Lake indicate they slope downward and do not have flat tops as would be expected in the case of lakes. In 1960, he conducted tests which showed the stream had a mean bank velocity of 0.68 miles per hour, minimum channel velocity of 1.55 miles per hour, and maximum mean channel velocity of 2.2 miles per hour. Tests taken in 1967 during periods of low water showed currents of slightly less velocity. The absence of stagnant water and peat deposits, which are customarily found in lakes, also confirmed his opinion that the water body is a stream. He found that Grand Lake has a slope or gradient, whereas lakes have flat surfaces. His study

showed a gradient in Six Mile Lake greater than that found in the Mississippi River. He also noted that lakes have eroded shorelines, saucer-shaped basins, beaches and an absence of channels or thalwegs. His studies show that Grand Lake has no beaches, has a V-shaped channel or thalweg, and its entire length is marked by the engineers with mileposts signifying the water body is considered by the engineers as a segment of the Atchafalaya River. Dr. Steinmayer also observed the absence of floaton, meaning water hyacinths and other floating vegetation which exists in lakes, primarily in coves or embayed areas, and which due to bacterial action sinks to the bottom and forms peat. In addition, he observed the considerable fluctuation in water levels between high and low water seasons, a characteristic of streams and the considerable discharge capacity of the water body.

Defendants' expert, John P. McDowell, geologist, corroborated Dr. Steinmayer's testimony that Six Mile Lake is a running stream. His opinion was based on tests of the sedimentary areas adjoining Barnett's Cove. These studies show the slope of the sedimentary areas is parallel to the currents in the stream, and evidence of cross-bedding in the sedimentary areas gives further indication that they were laid down by currents of moving water. In addition, he noted that aerial photographs of the area show the numerous islands building up in the center of Six Mile Lake are elongated in the direction of the current.

Dr. Willis A. Eggler, botanist, testifying on behalf of defendants, deposed that corings showed the sedimen-

tary material in the area involved was carried there from other areas, indicating they were brought by currents. These same studies also disclosed the absence of a large amount of organic material which is ordinarily found in lakes because of the nature of the vegetation which grows in lakes.

State-Gulf offered in opposition to defendants' expert witnesses the testimony of Dr. Charles R. Kolb. The trial judge gave little weight to Dr. Kolb's testimony, however, for the following recited reasons:

> "Dr. Kolb, in his testimony, attempted to analyze each of the twelve findings of Professor Steinmayer, as hereinabove set forth, and to show that they apply equally to lakes or streams or attempted to distinguish them on factual grounds. (TR. Vol. II, pp. 263-294)
>
> "The Court has carefully considered the testimony of Dr. Kolb, and finds that it is not entitled to much if indeed any weight. Dr. Kolb's conclusion that the water body in question is a lake and not a stream (TR. Vol. II, p. 293) is based on criteria or standards which Dr. Kolb has established himself, and which completely ignore the criteria or standards for such a determination as set forth by our Jurisprudence.
>
> "For example, Dr. Kolb (TR. Vol. II, pp. 261, 292-293) sets forth his criteria for determining whether a water body is a lake as follows:

"1. That all open lakes — open lakes are ones that have outlets — All open lakes are ponded areas along a stream's path to the sea.

"2. All lakes are wider than the aggregate width of the rivers which enter them.

"3. Currents in the river entering a lake are always greater, sometimes by several orders of magnitude, than currents in the lake.

"4. That the average channel volume is rapidly filling and continually shrinking in size.

"5. That its sediment load decreases in a downstream direction.

"Applying his findings to these tests, Dr. Kolb concludes Six Mile Lake is a lake and not a stream. In so doing he has completely ignored the test established by our Jurisprudence for this determination which is, as stated in Cockrell and previously in this opinion, that, 'a body of water through which a current flows or runs with such capacity and velocity and power as to form accretions is characterized as a river or stream. . . .'

"Dr. Kolb himself admits those facts which under the above quoted test establish that this water body is a stream. Thus, he states:

'Now, concerning current velocity, there is no doubt that there are currents in Grand Lake-Six Mile Lake. Certainly at the present time there are currents of a fairly considerable magnitude.' (TR. Vol. II, p. 271)

"Then, after citing Professor Steinmayer's measurements of current velocities, he adds (TR. Vol. II, p. 272):

'Now, we realize — I realize there are some rather considerable currents in Grand Lake and in Six Mile Lake.'

"And, in TR. Vol. II, p. 276, he states:

'I might say in summary that I just do not consider the existence of currents in a water body as being characteristic of either a lake or a stream, that they occur in both.'

"And, concerning the power to form accretions, he states:

'The lake is continually filling by either silting in its bottom or accreting to and shrinking its shoreline where the Atchafalaya enters and form deltas, and

'It (the sediment load) decreases markedly. As I previously pointed out, three quarters of the material in suspension is deposited in the Lake area. The remainder is carried out

through the Wax Lake and Lower Atchafalaya to the Atchafalaya Bay.' (Kolb, TR. Vol. II, p. 293)

"Thus, not only does Dr. Kolb ignore the criteria established by our Jurisprudence to determine this Lake v. Stream issue and substitute therefor his own unsupported and undocumented criteria, but he in fact admits the existence of those facts necessary under our Law and Jurisprudence to characterize a water body as a stream; i.e., the powerful currents and the ability to form accretions. He attempts to minimize the effect of these admissions by stating that they apply equally to lakes and streams and that to apply the test of the Jurisprudence to all water bodies would be to declare certain well recognized lakes to be streams. This may be, but in any case in Louisiana wherein this issue is rasied, where the facts establish that a particular water body does have flowing currents of such power and velocity as to form accretions, then that water body is going to be judicially determined to be a stream until such time as the Supreme Court or the Legislature changes these criteria." (Written Reasons for Judgment, Record, pp. 1824-1826)

State-Gulf contend, however, that even if Six Mile Lake be properly classified as a stream rather than as a lake, nevertheless, defendants cannot properly be decreed the owners of the land areas in controversy, which State-Gulf refer to as (1) "Barnett's Cove," (2) the "Woodland Tract," and (3) the "island area." State-Gulf contend that the area

comprising "Barnett's Cove" cannot be classified as alluvion which would belong to the riparian landowners inasmuch as this area was created artificially as the result of dredging operations conducted in Wax Lake Outlet. Our review of the record satisfies us that the trial judge committed no manifest error in concluding that the preponderance of the evidence supports defendants' contention that the area comprising "Barnett's Cove" properly constitutes alluvion or accretionary build-up of a land mass which is attached to and belongs to the riparian landowners. In making this determination, the trial judge relied heavily on the expert testimony of defendants' witness, Dr. McDowell. Dr. McDowell testified that while some of the alluvion was undoubtedly comprised of dredge spoil material, nevertheless, this material was deposited as a result of the natural effects of running water rather than as a result of having been pumped into or placed directly in the "Barnett's Cove" area. While this testimony is contradicted in certain respects by expert and lay testimony offered by State-Gulf, we find no manifest error committed by the trial judge in resolving this issue adversely to State-Gulf.

State-Gulf next contend that the area referred to as the "Woodland Tract" does not constitute alluvion, but rather is an area possessing ancestral forests and has for an extensive period of time been above water at ordinary low water stages and below water at ordinary high water stages. State-Gulf contend, accordingly, that the only way defendants could be properly recognized as owners of this "Woodland Tract" would be if the Woodland Tract were properly classified as comprising the bank of a river, as defined by Louisiana Civil Code Article 455 and its 1808 precursor. We agree with this analysis, to the extent

that the Woodland area is comprised of bank as opposed to alluvion, but further conclude that inasmuch as Six Mile Lake has properly been classified as a stream, the bank thereof belongs to the riparian owner under Louisiana Civil Code Article 455. Such construction of Article 455 coincides with the rule of property contained in Louisiana Civil Code Article 509 which gives alluvion to the owner of land adjacent not only to a river but also to a "stream." This holding is consistent with pronouncements made by this Court and approved by the Louisiana Supreme Court in *State v. Cockrell,* cited *supra,* and is also consistent with the Louisiana Supreme Court decisions of first *Amerada* and second *Amerada,* cited, *supra.*

State-Gulf next contend that the third land area in controversy referred to by them as the "island area" is not alluvion which belongs to the riparian landowners, but is instead an island formed within the body of water and not connected to the bank, and thus is owned by the State in accordance with Louisiana Civil Code Article 512. We find no manifest error committed by the trial judge in resolving this issue, which of necessity involved an evaluation and analysis of the conflicting expert testimony, adversely to State-Gulf. The trial judge correctly noted that the contentions urged by the respective litigants in the instant case concerning this question were strikingly similar to those urged by the respective litigants concerning this same land mass in *State v. Cockrell,* cited *supra.* Finding no manifest error committed by the trial judge in this regard, we will not disturb his resolution of this issue.

State-Gulf also contend that the trial judge erred in adopting the alternative method suggested by the expert witness Whitaker for ascertaining the ordinary low water mark in the area in controversy. State-Gulf contend that this method is objectionable because of the "subjective nature of the selection of the low water seasons." We disagree and conclude that the method used by the trial judge and his reasons for implementing the same are well founded. We discern no manifest error in the trial judge's selection of the method utilized by him to ascertain and describe the low water mark nor in his rejection of the other proffered methods for the reasons enunciated by him.[2]

State-Gulf further contend that the trial judge erred in failing to give effect herein to Act 341 of 1952, LSA-R.S. 9:1151, with respect to the lease by the State to Gulf dated April 18, 1956. We find merit in this contention. Act 341 of 1952, LSA-R.S. 9:1151, provides the following:

> "In all cases where a change occurs in the ownership of land or water bottoms as a result of the action of a navigable stream, bay or lake in the change of its course or bed, or as a result of accretion, dereliction, or other condition resulting from the action of a navigable stream, bay or lake, the new owner of such lands or water bottoms, including the state of Louisiana, shall take the same subject to and encumbered with any oil, gas and/or mineral lease covering and affecting such lands or water bottoms, and subject to the mineral and royalty rights of the lessors in such lease, their heirs, successors and assigns, the

2 Written Reasons for Judgment, Record, pp. 1843-1851.

> right of the lessee or owners of such lease and the right of the mineral and royalty owners thereunder to be in no manner abrogated or affected by such change in ownership."

Defendant, Placid Oil Company, contends that if the foregoing statute is otherwise found to be applicable, it is unconstitutional as violative of the constitutional guarantees proscribing deprivation of property without due process of law as well as impairment of contract rights. We find no merit in the assertion of unconstitutionality of the statute in question, provided it be given prospective and not retrospective effect. It is clear that but for another statutory provision, namely, Louisiana Civil Code Article 509, the State of Louisiana and not the defendants would own the area comprised of alluvion in controversy herein. There is nothing which precludes the Louisiana Legislature from prospectively modifying by subsequent legislation such as Act 341 of 1952, LSA-R.S. 9:1151, the effect which would otherwise obtain by virtue of Civil Code Article 509. There is nothing discriminatory in the 1952 legislative act in question, as it applies equally in favor of or aginst the State as it does in favor of or against private landowners. The Louisiana Legislature could have repealed *in toto* Louisiana Civil Code Article 509, following the effective date of which legislative repeal alluvion would remain the property of the State instead of becoming the property of riparian landowners. The fact that the 1952 legislative act in question simply modifies the effect of, rather than repeals entirely, Louisiana Civil Code Article 509, does not gainsay its constitutionality when applied prospectively. The foregoing pronouncements likewise apply with respect to changes in the ownership of true water

bottom areas which become banks of rivers or streams to which Civil Code Article 455 applies.

The effect of this determination is that by virtue of Act 341 of 1952, LSA-R.S. 9:1151, any changes in the ownership of land or water bottoms following April 18, 1956, the date of the lease from the State of Louisiana to Gulf, are without prejudice to the interests deriving from such mineral lease and the new owner or owners of such land or water bottoms take the same subject to and encumbered with such lease.

In accordance with the discretion vested in this Court by Louisiana Code of Civil Procedure Article 2164 and applicable jurisprudence, we will remand this suit to the trial court for the limited purpose of permitting the litigants to establish the ordinary low water line in the areas in controversy as of April 18, 1956. All land areas in controversy owned by defendant landowners and located on the landward side of the low water line as it is found to have existed on April 18, 1956, shall be unaffected and unencumbered by State Lease Number 2963, whereas all land areas located on the water side of the ordinary low water line as it is determined to have existed on April 18, 1956, will be affected by the afore-mentioned lease to the extent to which that lease purports to encompass such areas.

The case is also remanded to the trial court for the correlative purpose of ascertaining whether any judgment should be rendered against Placid and in favor of State-Gulf for the value of oil and gas which may have been produced from or properly be attirubtable to the land areas in question located on the water side of the ordinary

low water line as same is determined to have existed on April 18, 1956, as well as ascertaining the rights, if any, of Placid to be reimbursed for allocable drilling costs and allocable daily operation costs of any of the three wells in question.

We find no merit in Placid's alternative contention that its Lease Number 3643, dated February 24, 1960, covering Tract Number 7722, encompasses the disputed areas, and that Gulf's Lease Number 2963, dated April 18, 1956, covering Tract Number 3643, does not.

The recorded lease to Gulf in 1956, describes the southern boundary of Tract 3643 as "the meanders of the original shoreline of Six Mile Lake." However, the plat attached to this lease outlining the leased area in red establishes the southern boundary of Tract Number 3643 at the then existing shoreline of Six Mile Lake, not the original meander line lying to the south thereof.

Placid's 1960 recorded lease describes the northern boundary of Tract 7722 as the southern boundary of Gulf's Lease Number 2963. The plat attached to Placid's recorded lease, showing in red the outlines of Tract 7722, shows the northern boundary of said tract conformable with the original meander or shoreline, and not the then existing shoreline. According to the plats attached to each lease, the southern boundary of Gulf's lease did not touch the northern boundary of Placid's lease. Moreover, the property on which subject wells are situated lies between the original meander or shoreline and the existing shoreline. Therefore, based on the plats attached to the original leases, neither lease encompassed the area on which subject wells are situated inasmuch as the wells lie

above the northern boundary of Placid's lease and below the southern boundary of Gulf's lease.

On November 23, 1962, an officer of Placid executed an affidavit which, after describing the property embraced in Tract 7722 covered by Placid's Lease 3643, recited the following:

> "* * through error and inadvertence, an unofficial plat which was not referred to in the said lease was annexed thereto; that the said plat does not describe the property leased and intended to be leased to the lessee named and constitutes no part of the lease agreement, which said lease agreement specifically refers to a plat on file in the State Land Office at Baton Rouge, Louisiana, where the property covered by the said lease is more fully shown and outlined in red on the official plat in the STATE Land Office; that the said plat attached to the said lease should therefore be disregarded and reference made to the official plat on file in the State Land Office to show the property actually described in the said lease agreement."

State-Gulf offered a certified copy, dated August 1, 1962, by the Registrar of the State Land Office, of the plat on file in the land office showing the extent of Gulf's lease. This plat shows the existing shoreline, and not the original meander line as the southern boundary of Gulf's lease. Interestingly enough, Placid offered copies of two plats certified by the Registrar of the State Land Office, also dated August 1, 1962, showing the boundaries of

Placid's lease. One such plat indicates the northern boundary of Placid's lease as following the original meander line and not the existing shoreline as claimed by Placid. The other plat delineated the northern boundary of Placid's lease by two red lines, one following the original meander line, and the other along the existing shore; this latter plat also having two marks drawn on the line which tracked the original meander line.

On February 21, 1963, the State Mineral Board adopted a resolution declaring that Gulf's lease included all of the area designated on the plat on file in the State Land Office which was distributed with the Notice to Bidders published by the Board in connection with the execution of Gulf's Lease Number 2963. That plat delineated the southern boundary of Gulf's lease as the original meander line. The declared purpose of this resolution was to settle any uncertainty concerning the boundaries of Gulf's lease. The resolution was ordered filed in the State Land Office, and declared that it confirmed the extent of Gulf's lease.

Placid claims the area to the existing shoreline on the ground that its lease calls for its northern boundary to be Gulf's southern boundary, and that the plat attached to Gulf's map shows the southern boundary of the Gulf tract to be the existing shoreline.

In so contending, Placid relies upon the well established rule of law that where property is described in reference to an attached plat, the plat controls in the event of any discrepancy in description between the worded description in the lease or deed and the plat-indicated boundaries thereof. *Maginnis Land & Improvement Company v.*

Marcello, 168 La. 997, 123 So. 653 (1929); *Werk v. Leland University*, 155 La. 971, 99 So. 716 (1924). Placid also relies upon the elementary rule of law that any act pertaining to immovable property, including mineral rights, must be recorded upon the public records to affect third parties. LSA-C.C. arts. 2264, 2266; LSA-R.S. 9:2721-2722. Placid also points out that changes may be made between parties to a recorded instrument to reflect the true intent of the parties, but that such changes may not be made to the prejudice of intervening rights of third parties. *Blevins v. Manufacturers Record Publishing Company*, 235 La. 708, 105 So.2d 392 (1957).

We are in complete accord with the foregoing principles advanced by Placid. These principles, however, do not warrant adopting Placid's position, inasmuch as such position is based on a self-contradicting basis. In effect, Placid seeks to defeat Gulf's claim to the disputed area on the contention that the plat attached to Gulf's lease defines the limits thereof. At the same time, Placid insists that the worded description in its lease should prevail over the platted delineations attached thereto. The obvious answer to this contention is that the rule of law, which says that the plat prevails in such instances, applies equally to Gulf and Placid. Placid's original lease limits Placid's northern boundary to the original shore or meander line. Until Gulf obtained its correction from the State Mineral Board, Gulf's lease extended southerly only to the existing shoreline. Upon correction of Gulf's lease, the southerly boundary thereof extended to the original meander line. This in no way affected Placid's rights since Placid's lease did not extend northerly beyond the original meander line.

Although Gulf's lease purports to extend to the original meander line, its effect, as previously indicated, extends only to the ordinary low water line as such is determined on remand to have existed as of April 18, 1956.

The remaining issue concerns appellants' complaint of assessment of court costs in favor of Placid and Texaco. Our review of the record fails to disclose any manifest error committed by the trial judge in making these awards of court costs and expert witness fees and the amounts thereof. Nor do we in our discretion, by virtue of reversing in part and remanding these proceedings for the limited purposes set forth above, consider any modification of the assessment of court costs and expert witness fees warranted. The costs incurred by Placid and Texaco are, for all practical purposes, attributable solely to issues which have been resolved herein in their favor and adversely to appellants. We accordingly affirm the assessment of costs in the trial court to State-Gulf. We recognize that the State is exempt from all court costs except certain stenographer's costs and fees as provided by LSA-R.S. 13:4521. Whatever portion of the court costs as assessed in the trial court are not paid by the State are assessed to appellant, Gulf Oil Corporation. One-half of the costs of this appeal are assessed in solido to the State and to Gulf Oil Corporation, with the proviso that whatever portion thereof the State is exempt from paying pursuant to LSA-R.S. 13:4521, such costs shall be paid by appellant, Gulf Oil Corporation. The other one-half of the costs of this appeal are assessed to appellees in solido.

For the foregoing reasons, that part of the judgment appealed from which orders State Lease Number 2963 dated April 18, 1956, to Gulf Refining Company can-

celled and annulled insofar as it purports to affect the property described in the judgment, is reversed and the suit is remanded for the purpose of determining the extent, if any, of the applicability of that lease to that area lying on the water side of the ordinary low water line as same is determined to have existed on April 18, 1956. Similarly, that part of the judgment appealed from which recognized Placid Oil Company, J. Ray McDermott and Company, Inc., and Texaco, Inc., as the valid owners of oil, gas and mineral leases affecting all of the property described in the judgment appealed from is likewise reversed and the suit remanded for the purpose of determining what part, if any, of the land area in question is validly covered by State Lease Number 2963, dated April 18, 1956, to Gulf Refining Company, that is, on the basis of the ordinary low water line as same is determined to have existed on April 18, 1956. In all other respects the judgments appealed from are affirmed.

AFFIRMED IN PART, REVERSED IN PART AND REMANDED.

APPENDIX "B-1"

CONCURRING OPINION OF JUDGE TUCKER

(Date of Entry: December 26, 1972)

STATE OF LOUISIANA AND GULF OIL CORPORATION versus PLACID OIL COMPANY, ET AL TEXACO, INC., INTERVENOR	STATE OF LOUISIANA COURT OF APPEAL FIRST CIRCUIT NUMBER 8878

TUCKER, J. concurring:

Tucker, J, concurs on the ground that the majority opinion is governed by *State vs. Cockrell* and the two *Amerada Petroleum Corporation* cases cited therein. The rationale of these three cases seems to be the law of this case. However, I feel that the jurisprudence should return to the judicial expressions of *State vs. Erwin*, also cited in the majority opinion.

APPENDIX "B-2"
DISSENTING OPINION OF JUDGE LANDRY

(Date of Entry: December 26, 1972)

STATE OF LOUISIANA and
GULF OIL CORPORATION
versus
PLACID OIL COMPANY, ET AL.,
TEXACO, INC., INTERVENOR

STATE OF LOUISIANA
COURT OF APPEAL
FIRST CIRCUIT
NUMBER 8878

Landry, J., dissenting.

Notwithstanding I was the organ of the court in State v. Cockrell, 162 So. (2d) 361, writ refused 246 La. 343, 164 So. (2d) 350, I dissent from the majority ruling that Six Mile Lake is a stream as distinguished from a lake.

Upon further consideration of the lake-stream question, it is my opinion that the decision in Cockrell was erroneous in relying upon Amerada Petroleum Corporation v. State Mineral Board, 203 La. 473, 14 So. (2d) 61 (First Amerada); Amerada Petroleum Corporation v. Case, 210 La. 630, 20 So. (2d) 431 (Second Amerada), and Esso Standard Oil Company v. Jones, 233 La. 915, 98 So. (2d) 236.

I readily recognize that the rule which evolved in First Amerada, Second Amerada and Jones, above, conflicts with the principles established in State v. Erwin, 173 La. 507, 138 So. 84. However, further study of this most perplexing issue leads me to the conclusion that Erwin, which has never been expressly overruled, represents the better line of authority and should be followed.

Pertinent to the lake-stream issue is the history of the Atchafalaya Basin as disclosed by the record. In this regard, the evidence discloses that Six Mile Lake is the lower or southerly portion of a large body of water known as Grand Lake-Six Mile Lake which naturally courses in a southeasterly direction. At the lower (Six Mile Lake) end, the water body runs almost due easterly before connecting with Flat Lake and Berwick Bay which eventually empty into the Gulf of Mexico, below Morgan City, Louisiana. It is conceded that Six Mile Lake forms part of what is known as the vast Atchafalaya Basin through which now flow the waters of the Atchafalaya and Red Rivers. It is also undisputed that this immense basin includes innumerable water bodies of diverse sizes, widths and depths, which are and have been for many years variously designated on official maps and charts as rivers, lakes, bays and bayous.

The formation of the Atchafalaya Basin (Basin), as related by State-Gulf witness, Charles R. Kolb, Geologist and long time employee of the United States Corps of Engineers (Engineers), is for all practical purposes, undisputed in the record. Predicated upon ancient documents and maps, together with reports, studies and surveys conducted by the Engineers, Mr. Kolb explained that the entire Basin from its northern extremity at Old River to its

southern terminus at the Gulf of Mexico, and from east to west, roughly the longitude of New Orleans (the Lafourche Ridge on the east) to the longitude of Lafayette, the Teche ridge on the west, exists today because in prehistoric times, the Mississippi River abandoned courses in this area. In former times, according to Mr. Kolb, the Mississippi River flowed through Bayou Teche, Bayou Lafourche and Bayou Plaquemine, all of which are part of the Basin, on its way to the sea. These conclusions were based on detailed studies of the Basin undertaken by the Engineers involving years of work and research in the form of borings and study of carbon deposits found in the various courses in the Basin. It appears that for a long time, only a relatively small amount of water entered the Basin from the north, there being no large rivers entering the area. During this period, a small amount of water entered the northern end of the Basin via Red River through Raccourci Bend, Bayou Lettsworth. Lafon's maps of 1805 show a tremendous bend in the Mississippi near the confluence of the Mississippi, Red and Atchafalaya Rivers at the northern end of the Basin. At this poir.., the Mississippi curved slightly to the northwest, thence south, thence east until it formed a giant horseshoe before continuing southerly on its way to the sea. The Red River entered this horseshoe near what can be described as the northwesterly segment thereof. The Atchafalaya is shown as a very small stream exiting from the southwestern section of the horseshoe. The Atchafalaya, as it then existed, appears to have contributed only a small portion of the waters of the Red and Mississippi Rivers to the Basin, principally at stages of high water. By 1839, the Mississippi cut through the eastern or open end of the horseshoe by excavating a natural channel between the northern and southern arms

of the bend or horseshoe. The land area encompassed by the bend became known appropriately as Turnbull Island. The upper arm of the horseshoe, formerly occupied by the Mississippi, became known as Upper Old River and the lower arm was designated Lower Old River. In 1839, the Red River sought a section of Old River as an outlet because the Atchafalaya was inadequate to receive all of the Red's waters. Apparently the upper arm of Old River was chosen.

Surveys made by Louis Hebert, State Engineer, in 1854-55, indicated the Red River was being forced almost entirely into the upper arm of Old River and that the lower arm was being closed off. This situation prompted excavations to maintain connections between the Mississippi and Atchafalaya Rivers, and also to direct the waters of the Red River into both the Mississippi and Atchafalaya Rivers. By 1883, the upper arm of Old River had almost silted over, but the channels between the Mississippi and the Atchafalaya and the Red and the Atchafalaya, and from there into the Mississippi, were still open and intact. Between 1830 and 1880, it appears that only the waters of the Red River entered the Atchafalaya River. In the 1880's, the channel between the Mississippi and Atchafalaya began to silt up and had to be kept open by dredging. From the 1880's until 1940, an increasing volume of the Mississippi continued to flow into the Atchafalaya. The increasing volume of this flow posed the threat of the Atchafalaya "capturing" the Mississippi. This most undesirable result was prevented by dredging and the construction of certain control structures which prevented the flow of the Mississippi into the Atchafalaya. In connection with this particular work, and to enable the Atchafalaya to effectively handle the

increasing flow it was receiving, the Engineers have, since the 1930's, dredged selected sections of the Atchafalaya system creating channels to speed the flow of water and enable the Atchafalaya system to handle its increasing load. A considerable amount of dredging was done in the Grand Lake-Six Mile Lake area commencing in the 1930's. Since this time channels have been dug and annually maintained north or above Grand Lake-Six Mile Lake, through Grand Lake-Six Mile Lake and below or south of Six Mile Lake in the form of Wax Lake Outlet which was dredged commencing in 1938 and was completed by January, 1940.

Between 1917 and 1930, deltas formed at the north end of Grand Lake as the result of deposits of dredged materials being carried to those points from channel excavations above. Since 1930, the sedimentation has extended longitudinally down the central portion of Grand Lake-Six Mile Lake, forming comparatively narrow channels on the east and west sides thereof. The navigation channel being maintained in Grand Lake by the Engineers is the present western channel of Grand Lake-Six Mile Lake which empties into Wax Lake Outlet which commences just west of the southernmost tip of Six Mile Lake. The aim of the Engineers is to ultimately construct a channel of sufficient depth, through the entire area, to produce currents capable of carrying sedimentation out of Six Mile Lake. It is anticipated that eventually there will be but one channel through Grand Lake-Six Mile Lake, with spoil banks on either side in the nature of levees.

Studies conducted by the Engineers show that 75% of the sediment in Grand Lake-Six Mile Lake, including that

generated by dredging operations above and within the lake, are deposited in the lake because of its relatively slow currents, which circumstance explains the islands being formed in the center of the water body. The remaining 25% of sediment is being carried into Wax Lake Outlet and Atchafalaya Bay into which Six Mile Lake presently flows. Darby's 1816 field notes show that at that time, Six Mile Lake was almost placid at times, but that there was considerable flow therein during stages of high water.

Also germane to the lake-stream issue are certain general facts concerning Grand Lake-Six Mile Lake which are either conceded or conclusively established.

It is undisputed that the Grand Lake-Six Mile Lake segment of the Basin is approximately thirty miles long, and that it varies in width from three to ten miles. The southern end of Six Mile Lake, with which we are here concerned, is approximately three miles wide. With the exception of the navigation channel dredged and maintained by the Engineers, the water body varies in depth from a few inches to approximately five feet. The lake is subject to tidal action. Also conceded is the fact that the water body has currents capable of carrying sedimentation.

Maps of the Basin disclose that the three main sources through which the waters of the Atchafalaya eventually find their way into Grand Lake are: (1) the Arm of Grand Lake, a comparatively short and narrow body which enters Grand Lake at what might be desginated as the northeast sector of Grand Lake; (2) Lake Chicot, a fairly large water body which lies generally east of the Arm of Grand Lake and which has three or four separate outlets

into Grand Lake, and (3) Lake Fausse Pointe, a comparatively large body of water which empties into the northwest sector of Grand Lake. South of Lake Chicot, along the eastern shore of Grand Lake, numerous bayous and other bodies of water flow into Grand Lake. On its western shore below Lake Fausse Pointe, Grand Lake is fed almost exclusively by Bayou Teche which enters Grand Lake below the section of Six Mile Lake with which we are here concerned. In its original state, currents flowed through the water body with sufficient velocity to carry sediments and make alluvial deposits, especially during seasonable periods of high water.

As is to be expected, the record contains conflicting expert testimony regarding whether the body of water in question is a lake of stream.

State-Gulf offered the testimony of experts to establish: (1) Six Mile Lake is a true lake as opposed to a river or stream; (2) If Six Mile Lake is a stream, Barnett's Cove and the Island Area did not form as alluvion extending outward from the shore, but as an island detached from the shore, and consequently, title thereto vested in the State, not defendants as riparian owners, and (3) That the buildup in Barnett's Cove and the Woodland Area did not result imperceptibly from natural causes, but as the result of the acts of man in the form of dredge spoil pumped into the area during the construction of Wax Lake Outlet.

Conversely, defendants produced experts to establish: (1) Six Mile Lake was a flowing stream in 1812 because it had then, and has now, currents in it capable of carrying alluvial deposits; (2) Barnett's Cove was filled in by alluvion carried by the currents of Six Mile Lake; (3) The

Island Area was formed of alluvial deposits laid down by the currents of Six Mile Lake, and was attached to the shore in its early stages of formation but, due to natural conditions, first emerged above water as an island outward from the shore, and (4) The Woodland Area existed as a primeval cypress and tupelo gum forest above the ordinary low water mark of Six Mile Lake for hundreds of years prior to 1812 until the present.

My reading of the record convinces me that the majority have accurately analyzed the testimony of defendants' witnesses, Dr. Rhinehard A. Steinmayer and John P. McDowell, Geologists, and Dr. Willis A. Eggler, Botanist.

On the other hand, however, the testimony of defendants' aforenamed experts was contradicted by that of State Gulf's chief witness, Dr. Charles R. Kolb, Geologist, in the employ of the U. S. Corps of Engineers, who considered Six Mile Lake to be a lake as distinguished from a stream. Dr. Kolb defined a lake as a fairly large sized body of water occupying a depression in the earth's surface, and which can be open or closed. He noted that many lakes have outlets; not all are stagnant, and many have outflow. He stated that currents occur both in lakes and streams, and that the velocity of stream currents entering a lake is greater than that of the currents in the lake itself, which is the case in Six Mile Lake. Dr. Kolb found that Grand Lake is approximately twenty times wider than the Atchafalaya which enters it; that currents lessen materially within the lake; that it is saucer or dish shaped as are numerous other Louisiana marsh lakes, and that thalwegs or channels are common to both lakes and streams. He stated that the fact that the Engineers

were maintaining an artificial channel in the lake was no indication the Engineers considered the body of water a stream, and neither was the erection of milepost signs an indication that the water body was a stream. In a river sedimentation increases in a downstream direction; in a lake it decreases. In Grand Lake, 75% of the sedimentation is being deposited in the lake, only 25% being carried downstream. In his opinion, the presence of peat deposits are not necessarily characteristic of lakes, neither is the presence of floaton. Beaches, in his opinion, are as prevalent on lakes as rivers or streams. In his opinion, stratification and cross-bedding (as found by McDowell) are characteristic of deltaic lake deposits.

The majority have accepted defendants' contention that the testimony establishes subject water body as a stream which the two Ameradas, Jones and Cockrell cases define as bodies of water having well defined banks through which currents flow with sufficient velocity to carry alluvion and sedimentation. These same authorities, according to the majority, define lakes as large bodies of water which are more or less stagnant, which are not fed by flowing streams, but by drainage and which have no currents capable of carrying alluvion.

The reasons for my change in position on the lake-stream issue will be more readily understood in the light of my analysis of the positions of the opposing parties and the authorities cited by each in support thereof.

State-Gulf contends the Amerada and Cockrell decisions are erroneous in holding that any body of water having currents sufficient to carry alluvion are "other streams" within the contemplation of Articles 509 and

510, above. State-Gulf also contends this court erred in holding in Cockrell, above, that the Amerada and Jones decisions, above, reversed Erwin, above, which later authority held Calcasieu Lake to be a lake notwithstanding the Calcasieu River flowed through the lake on its route to the Gulf of Mexico. In addition, State-Gulf argues that this court erred in its Cockrell holding that the sole criteria for determining whether a water body is a river or stream, as distinguished from a lake, is its ability to carry alluvion. State-Gulf concedes that LSA-C.C. arts. 509 and 510 confer title to the banks of rivers and streams (to the ordinary low water mark) to the riparian owners, but that this court erred in holding, in Cockrell, that Articles 509 and 510, above, apply to water bodies of the nature involved herein, that is, large expanses of wide water bodies which are lakes rather than rivers or streams.

In support of its position, State Gulf relies upon a long line of authorities which it is contended have consistently held that water bodies of a nature similar to Grand Lake-Six Mile Lake are not rivers or streams but lakes, namely: Zeller v. Southern Yacht Club, 34 La. Ann. 837 (1882); Sapp v. Frazier, 51 La. Ann. 1718, 26 So. 378 (1899); Slattery v. Arkansas Natural Gas Company, 138 La. 793, 70 So. 806 (1916); State v. Capdeville, 146 La. 94, 83 So. 421 (1919); Atchafalaya Land Co. v. James, 146 La. 109, 83 So. 426 (1919); State v. Bozeman, 156 La. 635, 101 So. 4 (1924); Gulf Refining Company v. Grace, 165 La. 979, 116 So. 405 (1928); State v. Erwin, 173 La. 507, 138 So. 84 (1931); State v. Jefferson Island Salt Mining Company, Inc., 183 La. 304, 163 So. 145 (1935); Miami Corporation v. State, 186 La. 784, 173 So. 315 (1937); Doiron v. O'Bryan, 218 La. 1069, 51 So. (2d) 628 (1951).

State-Gulf also points to a series of cases involving Lake Ponchartrain, including Zeller, above; Milne v. Girodeau, 12 La. 324; Bruning v. City of New Orleans, 165 La. 511, 115 So. 733, and New Orleans Land Company v. Board of Levee Com'rs of Orleans Levee Dist., 171 La. 718, 132 So. 121, as authority for the principle that a large body of water, such as that involved herein, is deemed a lake even though a river flows through it creating currents capable of eroding banks and carrying alluvion. My consideration of these authorities indicate that in each case the outcome hinges on the finding that the alluvion and dereliction rules prescribed in Articles 509 and 510 do not apply to an arm of the sea into which category Lake Ponchartrain falls. However, the Court, in Zeller, in disposing of plaintiff's contention that Lake Ponchartrain is not an arm of the sea, stated it was sufficient ". . . to say, that the only acknowledged right to accretions as to property under our law, are those formed on rivers and running streams; and that there is no recognition of any property right therein, when formed on lakes, bays, arms of the sea or other large bodies of water, and that the modes or ways of acquisition of property are limited to those expressly prescribed by law and cannot be extended by implication."

In New Orleans Land Company, above, plaintiff sought compensation for expropriated lands which had, in part, eroded into Lake Pontchartrain. In rejecting plaintiff's demand with respect to the eroded area, the court observed:

> "In determining the issues involved in this case, it is of no particular value to ascertain whether Lake Ponchartrain should be classed as a salt-

water tidal lake or a fresh water inland navigable lake. The legal situation with which we are concerned here is the same in either case. The water bottoms of both classes of lakes are owned by the state to the high water mark." (Citation of numerous cases omitted.)

In Sapp v. Frazier, 51 La. Ann. 1718, 26 So. 378, plaintiff claimed title to a portion of the bed of Lake Bisteneau, on the ground that it was an alluvial addition. The lake versus stream issue, as such, was neither raised nor discussed. It appears all concerned considered the water body a lake. The court held against plaintiff on the ground it was unnecessary to determine whether plaintiff possessed riparian rights because the evidence showed the disputed area was neither accretion nor dereliction in that no land was added to the shore, but rather the area was one which was merely exposed during periods of low water. The court also noted that if the area were in fact alluvion, plaintiff established no title thereto because his deed did not specifically include same.

Slattery v. Arkansas Natural Gas, 138 La. 793, 70 So. 806, which concerned Sodo Lake, Caddo Parish, is pertinent primarily in that it declares alluvial rights of riparian owners exist only because of LSA-C.C. arts. 509 and 510, which confer such rights as to rivers and streams. No mention is made of whether Sodo Lake is a true lake or a river or stream. I note, however, that Slattery cites with approval the rule announced in Zeller to the effect that the modes of acquisition of property are limited to those expressly prescribed by law and cannot be extended by implication.

State v. Capdeville, 146 La. 94, 83 So. 421, involved a claim by the Board of Commissioners of the Atchafalaya Basin Levee District and its assignee, Atchafalaya Land Company, to the beds and bottoms of Lake Rond, Lake Dauterive and Lake Fausse Pointe (in the Atchafalaya Basin). The levee Board claimed title through Act 97 of 1890, pursuant to which the State granted it Swamp Lands obtained from the Congress of the United States. The lake-stream issue was not made a point in Capdeville. I find that Capdeville held adversely to plaintiff's contention on the ground that the lands in question were not transferred to the state under the Swamp Lands Act which transferred only lands subject to reclamation by artificial means, and the areas in controversy did not fall into that category.

Atchafalaya Land Co. v. James, 146 La. 109, 83 So. 426, involved the beds of Lakes Rond, Dauterive, Fausse Pointe and Little Lake Rond. The court held therein that, for the same reasons given in State v. Capdeville, the land belonged to the state rather than plaintiff.

State v. Bozeman, 156 La. 635, 101 So. 4, involved claims to the bed of Cross Lake, Caddo Parish. No specific lake as distinguished from river or stream issue, was raised or considered. The court found the sole question was whether Cross Lake was a navigable water body in 1812. It appears the court and all parties conceded Cross Lake was a true lake. The decision held that the State's title was to the high water mark.

In Gulf Refining Company of Louisiana v. Grace, 165 La. 979, 116 So. 405, plaintiff, as lessee of the bed of Lake Fausse Pointe sought to enjoin the state from granting a

lease to third parties on all the islands and lands in that water body. There was no specific consideration of the lake as opposed to river or stream concept. Apparently all concerned conceded Lake Fausse Pointe was a lake, and apparently the court treated it as such. The court simply decided that the property in dispute (certain islands) in the lake were part of the bed of the lake and included in plaintiff's lease.

State v. Erwin, 173 La. 507, 138 So. 84, concerned the title to land bordering Calcasieu Lake, which lands, though once above water, were submerged beneath the surface due to the effect of washing by waves. Riparian owners contended the state owned the bed of the lake only to the high-water mark in 1812, and even though their lands had become submerged, they still retained private ownership thereof. The strip in dispute varied in width from 50 to 1,000 feet and was several thousand feet long. Calcaseiu Lake was found to be about 18 miles long and from about four and one-half to twelve to fourteen miles wide. The Calcasieu River enters the lake on its northern end at which point the river is about 600 feet wide. North of the lake, the river is considerably deeper than the lake. The river channel through the lake is slightly deeper than the rest of the lake. During high water a perceptible current runs through the lake. In ordinary stages of water, there is little if any channel current. In stages of high water, there is perceptible current near the area involved. The rate of erosion at the area in question was at the rate of 5 to 6 feet yearly. The lake is affected by tides; its waters are usually fresh but sometimes brackish, becoming quite salt under certain weather conditions. The lake had a depth of about six feet except in the channel which was slightly deeper. Citing State v.

Bozeman, above, the Court held that Calcasieu Lake was a lake, and that the state owned its bed and bottom to the high water mark. The Court noted that in France, Calcasieu Lake would be considered a section of the Calcasieu River because, in France, where a river flows through a lake, the laws of accretion and dereliction apply to the lake. Citing as authority Jones v. Lee, 77 Mich. 35, 43 N. W. 855, the Court held that even though a river or stream flows through a body of water, it does not characterize the latter a theoretical expansion of the former, and does not change the classification of the latter from a lake to a river or stream. The court then noted that a river is characterized by confining channel banks which give it a substantially single course throughout. A lake, however, occupies a basin of greater or lesser depth, and may or may not have a single prevailing direction. Citation of authorities followed.

The Court then held that since a riparian owner does not acquire accretion on a lake, he should not lose that which is submerged by erosion of his shore line.

The State urges that Erwin is an application in reverse of the equitable principle underlying our laws of accretion and dereliction as expressed in Succession of Delachaise v. Maginnis, 44 La. Ann. 1043, 11 So. 715, because it was only by holding Calcasieu Lake a lake could the riparian owner retain title to the submerged area; if it were held a river, the loss by dereliction would accrue to the State under Articles 509 and 510. Defendants say there is no codal authority for applying the aleatory concept to lakes, and the Court in so holding in Erwin, above, contravened the basic principle that the beds of navigable waters belong to the state and are not susceptible of private ownership.

It is to be noted that this was the precise position subsequently taken by the Supreme Court in Miami Corporation, above.

State v. Jefferson Island Salt Mining Company, Inc., 183 La. 304, 163 So. 145, merely determined that the bed of Lake Peigneur, Iberia Parish, belonged to the state by virtue of its inherent soveriegnty. The lake-stream issue was not raised therein. Apparently all litigants, and the court as well, considered the lake to be a true lake.

In Miami Corporation v. State, 186 La. 784, 173 So. 315, plaintiff claimed ownership of an area which had eroded into the bed of Grand Lake, Cameron Parish. The body of water concerned was ten miles long and from three to nine miles in width. The Mermentau River flowed through the lake from north to south. Currents in the lake were found to be a considerable factor because no flats or shoals were formed in front of the receding area. It was also determined that the recession of the shore resulted from a combination of natural forces. The court in Miami discussed in detail the matter of ownership of the beds of navigable waters, and concluded that all lands which became submerged in such waters formed part of the beds thereof, and title thereto necessarily accrued to the state. The court considered Erwin, in detail, and concluded that Erwin was an attempt by the court therein to achieve equity between the state and riparian owners by holding that:

> "... neither the State nor the riparian owner gaining or losing when the water line of the lake expanded or contracted. The majority opinion ac-

complished this result by stating articles 509 and 510 of the Civil Code with reference to alluvion and dereliction did not apply to fresh water, navigable lakes. But, in order to reach this conclusion, the court had to go counter to the long-established sound principles of public policy in our jurisprudence — that the title to the bottoms of navigable bodies of water belong to the State as a result of its inherent sovereignty and are insusceptible of private ownership."

In Miami, the court then refused to recognize Erwin as binding either on the principle of stare decisis or a rule of property.

Defendants urge that Miami, above, is authority only for the proposition that it reverses Erwin's holding that eroded areas of lakes belong to riparian owners. Defendants contend that Miami did not determine the lake-stream issue, but merely held that the beds of all navigable waters, whether lakes, rivers or streams, belong to the state. I disagree with defendant's analysis of Miami inasmuch as I note in Miami the following:

"Learned counsel for both parties litigant stated that the main point in the case is the correctness of the decision in State v. Erwin, supra, and whether or not it should be followed or overruled. THEY ALSO AGREE THAT THE FACTS IN THIS CASE ARE SO SUBSTANTIALLY SIMILAR TO THOSE IN ERWIN THAT THIS CASE MUST BE DECIDED UNDER THE RULE DECLARED THEREIN, IN THE

EVENT WE REACH THE CONCLUSION THAT THE CASE OF STATE V. ERWIN IS CORRECT." (Emphasis supplied.)

From the foregoing, it appears that the court in Miami, and the litigants as well, considered the water body involved therein to be a lake as distinguished from a river or stream.

Defendants contend that Miami, Erwin, and the other cases relied upon by State-Gulf, were overruled by First Amerada and Second Amerada, above, which specifically held that the test of determining whether a water body is a river or stream, as compared to a lake, is its ability to carry alluvion. In this regard, defendants point out that until First Amerada, Erwin was the only case which attempted to establish criteria for the classification of rivers and streams as distinguished from lakes. Defendants argue that the Erwin ruling that a body of water is a lake if its expanse be sufficiently great, notwithstanding the existence of currents therein capable of carrying and depositing sediments, ignores our statutory rules concerning alluvion and dereliction and the concept of an aleatory contract between the state and riparian owners developed by the court as the equitable basis thereof.

Defendants also note that First Amerada involves the Arm of Grand Lake, which empties into subject water body, and classified it as a stream notwithstanding it varies in width from 3960 to 4440 feet. First Amerada, according to defendants, was the initial authority to distinguish "rivers" from "other streams" by holding that rivers have well defined banks, whereas streams are bodies of running or flowing waters with the capacity of

carrying substantial amounts of sediment to change their shore lines by the natural process of accretion and dereliction. Plaintiffs contend this court was wrong in finding in Cockrell that First Amerada overruled Erwin. Defendants, of course, maintain the court was correct.

Second Amerada, according to State-Gulf, effected an erosion of the First Amerada rule, and indicated a return to the Erwin rule regarding the definition of lakes. Second Amerada involved a continuation of the same alluvial area in dispute in First Amerada. I find, however, it merely held that since the area in dispute was an addition to the area involved in First Amerada, the decision in the former case was controlling. There was no discussion per se as to the lake versus stream issue. I believe there can be no mistaking, however, that in Second Amerada, all concerned, and the court as well, considered the water body involved to be a stream.

State-Gulf contends that further proof that the Amerada decisions did not overrule Erwin is found in Doiron v. O'Bryan, 218 La. 1069, 51 So.(2d) 628, which involved the same area which had eroded in Erwin, but which had rebuilt above high water because of spoil deposited as the result of dredging operations. In Doiron, above, plaintiff's claim to the built up area was rejected on the ground that plaintiff's deed called only for such high lands as existed adjacent to the shore at the time of plaintiff's acquisition, and did not include any submerged lands. Doiron did not expressly deal with the lake as opposed to river or stream question.

The next instance in which the definition of water bodies was involved was Esso Standard Oil Company v.

Jones, 233 La. 915, 98 So. (2d) 236. This case concerned an abandoned channel of the Mississippi River. The court in effect held that the abandoned channel was changed in character from a river to a stream capable of carrying alluvial deposits, and that the area in dispute belonged to the riparian owners who possessed the banks of the stream.

Jones, above, was followed by our decision in Cockrell, above. Defendants maintain this court was correct when it held, in the Cockrell decision, that the two Amerada decisions and Jones, in effect, overruled Erwin, insofar as Erwin established that Articles 509 and 510 do not apply to large water bodies such as Calcasieu Lake. State-Gulf contends, on the other hand, Cockrell erred in holding Erwin to have been overruled by the two Amerada and the Jones decisions. State-Gulf also urges that Cockrell ignored the numerous authorities cited and relied upon by State-Gulf commencing with Zeller and ending with Doiron, above.

In supplemental brief, defendants argue that the size, width and depth of a water body are not determining factors in classifying bodies of water as lakes, rivers or streams. In so contending, defendants cite and rely upon 56 Am. Jr., Waters, Page 533, Section 50; 93 C.J.S., Waters, Pages 596-597, Section 3; Libby, McNeil & Libby v. Roberts, 110 So. (2d) 82 (Fla); Alabama v. Georgia, 64 U.S. (23 How.) 505, 16 L.Ed. 556; Howard v. Ingersoll, 13 How. 391, 14 L.Ed. 189.

In 56 Am. Jur., Waters, Page 533, Section 50, I note the following:

"Ordinarily, the controlling distinction between a stream and a pond or a lake is that in the one case the water has a natural motion — a current — while in the other the water is, in its natural state, substantially at rest. However, the existence or nonexistence of a current is not in all cases determinative of the character of the body of water. The mere fact that water is very shallow, so that marsh grass appears above the surface; that it is called a marsh; that the water is not deep enough to admit of navigation, or that the surface is not at all times wholly submerged, does not preclude its being in fact a lake. Neither does the size or depth of a body of water solve the question whether it is a lake or a stream."

I note that 93 C.J.S., Waters, Pages 596-597, Sections 3 and 4, deal with the definition of "natural watercourses", and not the distinction between lakes, rivers and streams.

Libby, above, cites 56 Am. Jur., Waters, Section 50, page 533, including that portion thereof which indicates that the existence or nonexistence of current is not in all cases determinative of the character of water body.

Alabama v. Georgia, above, involved a bondary dispute between the litigating states. The characterization of a body of water as a lake, river or stream was not at issue therein. Consequently, the defining therein of a river as a "body of flowing water of no specific dimensions — larger than a brook or rivulet, less than a sea — a running stream, pent on each side by banks" is not decisive of the lake-stream issue involved in this present proceeding.

My examination of Howard v. Ingersoll, above, reveals that case was a boundary dispute between the States of Alabama and Georgia. The issue therein related to the location of the bank of the Chattahoochee River.

Our own jurisprudence, namely, Erwin, above, has rejected the concept that the size, width and depth of a water body are of absolutely no consequence in determining its character as a lake, river or stream, insofar as concerns our laws governing alluvion and dereliction.

The State's ownership of the beds and bottoms of navigable waters is a matter of such paramount public importance as to prompt my re-examination of Cockrell in the light of the following pertinent principles.

By virtue of its inherent sovereignty, the State acquired from the Federal Government the beds and bottoms of all navigable water bottoms in the state, whether lakes, rivers or other streams, up to the ordinary high water mark, upon the State's admission to the Union in 1812. Shively v. Bowlby, 152 U.S. 1, 38 L.Ed. 331; State v. Richardson, 140 La. 329, 72 So. 984.

The beds of navigable water bodies are incapable of alienation by the State. Louisiana Constitution of 1921, Article 4, Section 2.

The only acknowledged rights to accretion to property under our law are those formed on rivers and running streams. There is no recognition of any property rights to accretions formed on lakes, bays, arms of the sea, or other large bodies of water. Zeller v. Southern Yacht Club, 34 La. Ann. 837.

The modes or acquisition of property by accretion are limited to those expressly prescribed by law, which methods cannot be extended by implication or inference. Zeller, above.

I find the unmistakable import of the jurisprudence as expounded in Zeller, and reiterated in subsequent decisions such as Slattery v. Arkansas Natural Gas Company, 138 La. 793, 70 So. 806, establishes the principle that the rules by which public ownership of the beds and bottoms of navigable waters may be divested are to be rigidly construed in favor of public as opposed to private ownership, all doubt in regard thereto being resolved in favor of the State.

It is likewise my view that Erwin and Miami Corporation, above, as compared to the Amerada decisions, Jones and Cockrell, above, represent conflicting lines of jurisprudence, and that the latter do not necessarily overrule the former. The Amerada decisions can be distinguished upon the ground that they dealt with the Arm of Grand Lake, a body of water much smaller in size than Grand Lake-Six Mile Lake. Similarly, Jones is distinguishable in that it involved an abandoned section of the Mississippi River. Cockrell, of course, is indistinguishable in that it involved the same water body with which we are here concerned. I now believe Cockrell erred in failing to apply the Erwin rule which, upon further examination, appears to me to represent the sounder view in that it is consistent with and supportive of the fundamental principle that title to the beds and bottoms of navigable water bodies belong to the State, and the alienation thereof is expressly proscribed by constitutional provision. I likewise believe that LSA-C.C.

arts. 509 and 510 apply only to such rivers and "other streams" as flow more or less constantly, in relatively deep but comparatively narrow channels, between well defined banks. I also believe that large, expansive bodies of water, having relatively shallow channels and ill-defined banks, are characterized as "lakes" notwithstanding a river or stream flows through it at times and produced therein currents capable of carrying alluvial deposits. Being lakes, such large bodies of water do not fall within the term "other streams" as utilized in LSA-C.C. arts. 509 and 510.

In concluding Grand Lake-Six Mile Lake is, in legal contemplation, a lake, not a stream, I rely to considerable extent on the fact that this vast body of water measuring thirty miles in length and from three to ten miles in width, has a maximum natural depth of approximately five feet only. This natural condition, in my view, is more characteristic of a lake than a stream. I also note that Grand Lake-Six Mile Lake is of substantially the same size as Calcasieu Lake which, in legal effect, was held by Erwin to be a lake. The Erwin decision notes that Calcasieu Lake is approximately eighteen miles long and varies in width from four and one-half to twelve to fourteen miles. Although Calcasieu Lake is wider than subject water body, its length is considerably less. I note also that the depth in Calcasieu River was found to be a maximum of six feet, except for its 1000 foot wide channel which was slightly in excess of six feet deep. If Calcasieu is such a large body of water that Articles 509 and 510 do not apply thereto, in my judgment, Grand Lake-Six Mile Lake falls into the same category.

For these reasons, this court should reverse its ruling in Cockrell, and hold that subject water body is a lake to which LSA-C.C. arts. 509 and 510 regarding accretion, reliction and dereliction do not apply. Accordingly, I dissent from the contrary decision reached by the majority.

APPENDIX "C"

OPINION OF LOUISIANA SUPREME COURT ON ORIGINAL HEARING

(Date of Entry: December 3, 1973)

SUPREME COURT OF LOUISIANA

NOS. 53,294 and 53,295

STATE OF LOUISIANA, et al

versus

PLACID OIL COMPANY, et al
(INTERVENTION OF TEXACO, INC.)

ON WRIT OF REVIEW TO THE COURT OF APPEAL, FIRST CIRCUIT, PARISH OF ST. MARY, STATE OF LOUISIANA

MARCUS, Justice

This is an action by the State of Louisiana and its mineral lessee, Gulf Oil Corporation, involving an area of land located below the ordinary high water mark of a body of water in St. Mary Parish known as "Six Mile Lake" adjacent to Sections 49, 50 and 68, Township 15 South, Range 11 East. State seeks to be declared owner of this land; additionally, plaintiffs seek an accounting of the proceeds of three oil wells drilled thereon by Placid Oil Company and designated as S. G. Todd Wells 3, 4 and 5. Made original defendants were Placid Oil Company and

its assignee, J. Ray McDermott & Company, Inc. Pursuant to exceptions of non-joinder of indispensable parties filed by Placid and McDermott, numerous alleged owners (from whom Placid acquired mineral leases) were also made party defendants. Texaco, Inc., which owns an undivided one-half of Section 68, and certain parties claiming interests in Section 68 adversely to Texaco, intervened asserting interests in opposition to State-Gulf. The conflicts between Texaco and its adversaries concerning Section 68 have been compromised. Some dispute exists among defendants regarding their ownership of subject sections; however, it was stipulated that this matter would be deferred for determination at a future date between the parties in interest. Thus, all parties, including Texaco as intervenor, are aligned as defendants in opposition to plaintiffs' claims.

Exceptions of no cause and no right of action, res judicata, judicial estoppel and stare decisis were overruled by the trial court, which rulings were affirmed by the Court of Appeal. Since we will dispose of this case on the merits and will render judgment in favor of exceptors-defendants, the merits of the exceptions filed by them are of no moment.

The trial court rendered judgment in favor of defendants and against State-Gulf, rejecting their demands and decreeing the land area bounded on the south by the traverse line abutting Sections 49, 50 and 68, Township 15 South, Range 11 East, St. Mary Parish, and north to the ordinary low water mark of Six Mile Lake to be the property of the riparian landowners of these three sections. It further decreed the ordinary low water mark of Six Mile Lake as of July 8, 1963, the date of the filing of this suit, to

be a line having an elevation of +.11 feet above mean sea level subject to changes, if any, in said line, as may subsequently result from accretion, reliction or dereliction. It further ordered that State Lease No. 2963 dated April 18, 1956 to Gulf Refining Company and State Lease No. 3643 to Placid Oil Company be cancelled and annulled insofar as said leases purport to cover and affect any of the property as described in the judgment and the subject of this suit. The Trial Court further rendered judgment against State-Gulf, in solido, taxing as court costs for expert witness fees for Placid the sum of $31,733.29 and in favor of Texaco the sum of $31,345.94. No mention was made by the trial judge of Act 341 of 1952, R.S. 9:1151. The judgment of the trial court contained other decrees not pertinent to this appeal.

The Court of Appeal affirmed the trial court in holding that Six Mile Lake constitutes a stream as opposed to a lake, thereby making applicable the rules of property provided in Articles 455 and 509 of the Civil Code. Having arrived at that conclusion, the Court of Appeal then held: (a) that the portion of the area in dispute identified and referred to as the "Woodland Tract" comprised a part of the bank of Six Mile Lake; that, under the provisions of Article 455, C.C., the banks of streams belong to the riparian owners; and that such construction of said Article 455 coincides with the rule of property contained in Article 509, which gives alluvion to the owner of land adjacent not only to a river but also to a stream; (b) that the portion of the area in dispute referred to as "Barnett's Cove" properly constitutes alluvion or accretionary build-up of a land mass which is attached to and belongs to the riparian landowners; (c) that the portion of the area in dispute identified as the "Island Area" is land formed not as an island which subsequently attached to the shore, but

as alluvion which belongs to the riparian owners; (d) that the method of ascertaining the ordinary low water mark in the area in controversy adopted by the trial court was well founded; (e) that the award for court cost and expert witness fees incurred by Placid ($31,733.29) and by Texaco ($31,345.94) was correct, such costs being assessed, in solido, against State-Gulf with Gulf to pay any portion thereof that the State was exempt from paying by law. (R.S. 13:4521) The Court of Appeal further held that the trial court erred in failing to give effect herein to Act 341 of 1952 (R.S. 9:1151) with respect to the lease by the State to Gulf dated April 18, 1956, and rejected Placid's claim of the unconstitutionality of this Act. The Court of Appeal reversed that part of the judgment which orders State Lease No. 2963 dated April 18, 1956 to Gulf cancelled and remanded the suit to the trial court for the limited purpose of establishing the ordinary low water line in the area in controversy as of April 18, 1956 in order to determine the effect of State Lease No. 2963 to Gulf on land areas located on the water side of the ordinary low water line as determined to have existed on said date. The remand also included an accounting for the value of oil and gas which may have been produced from or attributable to the land areas in question as well as ascertaining the rights, if any, for reimbursement for allocable drilling and operational costs of any of the three wells in question. Similarly, that part of the judgment of the trial court which recognized Placid, McDermott and Texaco as the owners of mineral leases affecting all the property described in such judgment was likewise reversed and remanded for the purpose of determining what part, if any, of the land area in question is validly covered by State Lease No. 2963 as established by the ordinary low

water mark as same is determined to have existed on April 18, 1956. In all other respects, the judgment appealed from was affirmed. 274 So. 2d 402.

State and Gulf each separately applied to this Court for a writ of certiorari or review which was granted. 275 So. 2d 778 (La. 1973).

Relators, State of Louisiana and Gulf Oil Corporation, assigned as errors in the opinion and decree of the Court of Appeal the following:

1. The holding that Grand Lake-Six Mile Lake is a stream within the meaning of that term as used in Louisiana Civil Code Article 509.

2. The holding that the title to banks of streams belongs to the riparian owner under the provisions of Article 455 and that Article 509 grants title to alluvion to the riparian owner.

3. The holding that the areas herein identified as Barnett's Cove and the Island Area, which areas were formerly a part of the bed of Grand Lake, were formed by accretions classified as alluvion and subject to the application of Article 509.

4. The holding adopting a method for determining the ordinary low water mark in the area involved, which method is indefinite in that it, even by admission of its proposer, is not based on an objective criterion but could have as many different results as persons applying it.

5. The holding that the District Court did not abuse its discretion in taxing as costs expert witness fees in the amount of $63,079.23 which included allowances for travel, room and board in excess of those permitted by R.S. 13:3661, as well as payment for services for assistance by experts to counsel in preparation and trial of the case as distinguished from the expert's preparation to and testifying as an expert witness.

6. The additional holdings of the Court of Appeal, such as the cancelling of the lease granted by the State of Louisiana to Gulf on April 18, 1956, insofar as it covers any portion of the area in dispute, which result from the previously assigned errors.

State-Gulf assert in the first assignment of error that the Court of Appeal erred in holding that Grand Lake-Six Mile Lake is an "other stream" within the meaning of Article 509 of the Civil Code.

It is well settled that the beds or bottoms of all navigable waters in the State, whether lakes, rivers or streams, belong to the State by virtue of its inherent sovereignty. State v. Capdeville, 146 La. 94, 83 So. 421 (1919).

We are satisfied from our examination of the record that Grand Lake-Six Mile Lake was a navigable body of water at the time Louisiana was admitted into the Union in 1812. Therefore, if Grand Lake-Six Mile Lake is classified as a lake, the State would own the bed or bottom up to the ordinary high water mark by virtue of its sovereign rights. State v. Bozeman, 156 La. 635, 101 So. 4 (1924).

With respect to the beds or bottoms of navigable rivers and streams, the State holds in her sovereign capacity only the land that is covered by water at its ordinary low stage. Wemple v. Eastham, 150 La. 247, 90 So. 637 (1922). Furthermore, the land lying between the ordinary low water mark and the ordinary high water mark is called the bank of the stream and belongs to the owner of the adjacent land, subject to the use by the public. Articles 455 and 457 of the Civil Code. Wemple v. Eastham, supra.

The laws of this State governing accretions and derelictions are set forth in Articles 509 and 510 of the Civil Code, which provide as follows:

> "Art. 509. The accretions, which are formed successively and imperceptibly to any soil situated on the shore of a river or other stream, are called alluvion.
>
> "The alluvion belongs to the owner of the soil situated on the edge of the water, whether it be a river or stream, and whether the same be navigable or not, who is bound to leave public that portion of the bank which is required by law for the public use."
>
> "Art. 510. The same rule applies to derelictions formed by running water retiring imperceptibly from one of its shores and encroaching on the other; the owner of the land, adjoining the shore which is left dry, has a right to the dereliction, nor can the owner of the opposite shore, claim the land which he has lost.

"This right does not take place in case of derelictions of the sea."

It is well settled that, under Article 509, accretions formed successively and imperceptibly on the shores of rivers or other streams, whether navigable or not, belong to the owners of the property to which they attach, but this is not the law in the case of lakes, bays and arms of the sea. Zeller v. Southern Yacht Club, 34 La. Ann. 837 (1882); Miami Corporation v. State, 186 La. 784, 173 So. 315 (1936); Amerada Petroleum Corporation v. State Mineral Board, 203 La. 473, 14 So. 2d 61 (1943); Esso Standard Oil Company v. Jones, 233 La. 915, 98 So. 2d 236 (1957).

Accordingly, we must determine whether Grand Lake-Six Mile Lake was a river or stream, or a lake at the time of the State's admission to the Union in 1812. In the event it was a river or stream, Article 509 would be applicable; whereas, if it were a lake, Article 509 would not apply.

In order to make this determination, we must first refer to the law and jurisprudence of this State. As previously indicated, the statutory law dealing with accretion and dereliction is set forth in Articles 509 and 510 of the Civil Code. Hence, we must examine the cases which have interpreted these codal articles in an attempt to determine the type of body of water which would constitute a river or other stream under Article 509.

Many cases have been cited to us for our consideration, but, after reviewing them, we find only the following decisions involved the issue of the classification of a water body for application of our laws of accretion and

dereliction. These are: State v. Erwin, 173 La. 507, 138 So. 84 (1931); Miami Corporation v. State, 186 La. 784, 173 So. 315 (1936); Amerada Petroleum Corporation v. State Mineral Board, 203 La. 473, 14 So.2d 61 (1943); Amerada Petroleum Corporation v. Case, 210 La. 630, 27 So. 2d 431 (1946); Esso Standard Oil Company v. Jones, 233 La. 915, 98 So. 2d 236 (1957); and State v. Cockrell, 162 So. 2d 361 (La. App. 1st Cir., 1964), writ refused 246 La. 343, 164 So. 2d 350 (1964).

State-Gulf contend that the rule in Erwin properly sets forth the law of the State insofar as expansive water bodies are concerned regardless of their other characteristics as running bodies of water with substantial capacity to create accretions and derelictions. Further, they contend that the Amerada cases and the Esso case are distinguishable as they involve lesser water bodies and that Cockrell is in direct conflict with Erwin and should be overruled.

Erwin involved Calcasieu Lake, a large body of water in Cameron Parish, which is approximately 18 miles long and varies in width from 4-1/2 miles to about 12 or 14 miles. The Calcasieu River entered in from the north and came out of its southern end on its way to the Gulf of Mexico. The opinion states that there is a channel through the lake through which there is a perceptible current when the river is high due to heavy rains; however, in ordinary stages of the water in the river there is, if any, only an almost imperceptible current in the channel. The issue presented in this case was the ownership of that part of the lake formed by the erosion of the soil since admission of Louisiana to statehood. The Court concluded that resolution of this issue depended upon the applicability of

Articles 509 and 510. Conceding that these articles do not apply to lakes, the Court proceeded to determine whether Calcasieu Lake was a lake or a river within the contemplation of the laws governing accretion and dereliction. The Court considered the historical background of Civil Code Articles 509 and 510 (including the articles of the French Code from which they are derived) and acknowledged that in France, Calcasieu Lake would probably be considered a section of the Calcasieu River and subject to the laws of alluvion and dereliction. However, without assigning reasons for doing so, the Court dismissed that consideration and disposed of the issue in the following words: "* * * In our opinion, however, the better view — with reference to the laws, governing alluvion and dereliction — is to regard such a vast expanse of water as Calcasieu Lake as being in fact a lake, although a river empties into the sea through it." The Court concluded that Calcasieu Lake was a true lake and that Articles 509 and 510 covering alluvion and dereliction had no application to the case but decided, nevertheless, that the submerged lands belonged to the riparian owners. On rehearing, the Court held that the lake was not an arm of the sea and reiterated its previous views.

We find that Erwin adopts an unworkable and arbitrary standard for classifying water bodies with no real relationship with the meaning and purpose of Articles 509 and 510. The use of such a standard would make it next to impossible to determine when a water body was wide enough to be classified as a lake and narrow enough to be considered a river or stream.

Miami Corporation v. State followed Erwin in 1936. The issue involved was the ownership of land which had

become part of the bed of a navigable water body along the shore of Grand Lake in Cameron Parish. The factual situation in Miami was almost the same as in Erwin except that the water body involved was Grand Lake, through which the Mermentau River flows on its way to the sea. Miami reversed Erwin by deciding that the bed or bottom of Grand Lake, a navigable body of water, including the submerged lands in controversy, belonged to the State of Louisiana, by virtue of its sovereignty, it being a public thing and insusceptible of private ownership under Articles 450 and 453 of the Civil Code. The Court then stated that: "* * * Having reached the above conclusion, it is unnecessary to consider the applicability of articles 509 and 510 of the Revised Civil Code to this case." Thus, the lake-stream issue was not presented in that case for the obvious reason that the rule announced by the Court applied to any navigable water whether it was a lake, stream or otherwise.

Defendants urge that the rule of State v. Erwin, with respect to the definition of a lake as distinguished from a river or stream, appears to have been clearly overruled by subsequent decisions, primarily Amerada Petroleum Corporation v. State Mineral Board, hereinafter referred to as "First Amerada," Amerada Petroleum Corporation v. Case, hereinafter referred to as "Second Amerada," Esso Standard Oil Company v. Jones, and State v. Cockrell. We agree.

First Amerada was decided by this Court in 1943. It dealt with the ownership of accretions which had attached to the shore of the Arm of Grand Lake in St. Martin Parish which lies north of and empties into Grand Lake with which we are presently concerned. The lake-

stream issue was squarely presented to the Court in that case, and we feel that its pronouncement thereon, which has been subsequently followed in other decisions of this Court, is determinative of the legal principle on this point in the instant case. The Court held the body of water involved therein to be a stream to which the provisions of Article 509 applied, and on that finding, awarded the disputed land to the riparian owner. The Court quoted extensively from the well-reasoned opinion of the trial court. In deciding that the Arm of Grand Lake was a stream within the meaning of Article 509 as distinguished from a lake to which this article would not apply, the Court clearly defined a lake as a body of water which is more or less stagnant and is supplied by drainage. On the other hand, a river was distinguished from a lake in that it flows, more or less, in a permanent bed or channel between well-defined banks, with a current, whereas streams are bodies of flowing waters including rivers. The Court concluded that, since the Arm of Grand Lake was a flowing body of water, it constituted a stream within the meaning of Article 509. The Court was convinced that the provisions of Article 509 were intended to apply to such bodies of flowing water which had the capacity to form accretions.

We note the following appropriate language from First Amerada:

> "It will be noted, from an examination of the quoted portion of his opinion, the trial judge holds that the body of water known as the arm of Grand Lake can not be classified as a river, because it does not possess well defined banks or walls as are required of rivers, and, on the other

hand, that it can not be classified as a lake, because its waters are not still or dead and they are not supplied from drainage as is required of lakes. However, his holding is that the arm of Grand Lake is a body of flowing water, and therefore it constitutes a stream within the meaning of the term, 'or other stream' referred to in Article 509 of the Civil Code. He reasons very logically that the 'other stream' referred to in the article includes streams falling into the category of rivers. This inclusion covers the case here, because the stream involved possesses all the characteristics of a river in its ability to remove and deposit the soil.

"* * *

"The trial judge held that the arm of Grand Lake is a stream of flowing water and that Article 509 of the Civil Code applies to the alluvion on its banks. Regardless of the characterization of the water as a river or merely as a flowing stream, the conclusion reached by the trial judge is correct."

It can readily be seen that the Court clearly distinguished a lake from a river "or other stream" and defined the meaning of the term "or other stream" referred to in Article 509 as a body of flowing water with the ability to remove and deposit soil. Furthermore, it is apparent that the Erwin principle had been abandoned.

The Second Amerada case (1946) involved part of the identical alluvion formation involved in First Amerada, but it was contended that Article 509 did not apply because the build-up was not on the shore of the Arm of Grand Lake, but rather on the shore of Grand Lake itself. The Court concluded that, since the alluvion area in dispute was a continuation of the alluvion area in First Amerada, title thereto would be governed by the Court's decision in the former case. This case affirmed the Court's previous ruling in First Amerada and lends additional support to that decision.

The rule of First Amerada was again approved by the Supreme Court in Esso Standard Oil Company vs. Jones in 1957. The case involved a change of the Mississippi River channel from Deer Park Bend to Glasscock Cut-Off by artificial means. In determining the applicability of the rule of alluvion in Article 509, the Court again followed the rule set forth in First Amerada and held that, since the waters of Deer Park Bend contained a natural current capable of carrying alluvion and depositing it along its banks, it was a stream as distinguished from a lake. The Court approved and adopted the reasons of the trial judge as the opinion of that Court, from which we quote the following pertinent part:

> " 'In the present case at the present time there is not a constant or continuous flow at low water around the bendway every day in every year, but definitely the bendway is not a lake. When it does flow it is not drainage and the bendway gets its water from the main body of the Mississippi River. A stream is not required to flow every minute of the time. In this case the bendway is

characterized by definite banks on each side, a definite bed, a natural current always downstream with the main body of the Mississippi River being the source of water supply. The current is capable of carrying alluvion and of depositing it along the banks. These characteristics fulfill every possible requirement of a stream and prevent the Deer Park Bend channel from being classified as a lake or pond up to this time. That location may change some time in the future becoming a dead lake, but it had not done so at this writing. * * *' "

It was within this background that the Cockrell case was presented in 1964. The identical lake-stream issue was before the court. This time it involved alluvion which had formed on the shore of Six Mile Lake in St. Mary Parish. In view of the ruling of First Amerada in 1943, which was approved three years later in Second Amerada, and again fourteen years later in Esso, the result of Cockrell could be readily predicted. The First Circuit Court of Appeal[1] held:

"We conclude, therefore, Six Mile Lake is a stream as distinguished from a lake considering it is shown to be a body of water containing currents of sufficient velocity to carry alluvial materials. Moreover, the record conclusively shows the flow of water entering Six Mile Lake and causing its currents is not the result of drainage but the natural movement or flow of the waters of the Atchafalaya River passing through the waterway known as the Atchafalaya Basin

1 Application for writ of review was denied without dissent by this Court with the following notation: "On the facts found by the Court of Appeal, we find no error of law in the judgment complained of." 246 La. 343, 164 So.2d 350 (1964).

on its way to the sea. Because the banks of Six Mile Lake are not well defined as in the case of rivers, the body of water in question must be characterized as a stream rather than a river. Technically speaking, Six Mile Lake appears to be a segment of the Atchafalaya River. The record in the case before us leaves not the slightest doubt but that Six Mile Lake does in fact annually carry off a substantial portion of the tremendous volume of water flowing to the sea through the Atchafalaya River. It further appears beyond question, this condition antedated 1812 and has continued to the present time.

"It follows, therefore, Six Mile Lake was a stream in 1812 within the meaning and intendment of the term 'other stream' as used in Article 509, LSA-C.C., consequently the provisions of said article are applicable to the case at bar as held by the learned trial court. * * * "

We are here again presented with a review of the lake-stream issue dealing with the same body of water which was involved in the Cockrell case. We have carefully re-examined the jurisprudence with respect to this issue and reach the same inescapable conclusion. Nothing new or different has been presented in this case which has not been argued before and reviewed in our previous decisions. Accordingly, we conclude that the rule of the Erwin case, insofar as it holds that a body of water is a lake, even though water runs and flows through it with sufficient capacity and velocity to carry alluvion, to

which the laws governing alluvion and dereliction (Articles 509 and 510) have no application, has been clearly overruled by subsequent decisions of this Court. We further hold that the rule first enunciated in First Amerada and approved and affirmed in Second Amerada, Esso and Cockrell is now affirmed by us in this case: that a body of water through which a current flows or runs with such capacity and velocity and power as to form accretions is characterized as a river or stream, depending upon all attending circumstances, for the purpose of applying the rules of accretion and dereliction set forth in Articles 509 and 510 of the Civil Code.

Having determined the legal definition of a river or stream for the purpose of applying the provisions of Articles 509 and 510, we must next decide whether Grand Lake-Six Mile Lake factually falls within this definition.

We reiterate at the outset that the identical issue was presented in Cockrell, as Six Mile Lake was there involved as it is herein. The present action constitutes practically a re-trial of that case. The plaintiffs in this case are the identical plaintiffs in the Cockrell case. The areas in controversy in the two cases are practically the same, as the well in the Cockrell case was located approximately 4500 feet east of S. G. Todd Well No. 3, which is in close proximity to S. G. Todd Wells Nos. 4 and 5 (three wells involved in this case). Generally, the same experts who testified in the Cockrell case testified in the present case: notably, Dr. Reinhard A. Steinmayer; Dr. John P. McDowell; Dr. Willis A. Eggler; and Mr. Philip Whitaker.

Based upon a study of ancient documents, maps and journals, we are convinced that the Atchafalaya River in

1812 and prior thereto carried waters through Grand Lake-Six Mile Lake to the Gulf of Mexico. This has been previously recognized by the courts of this State. State v. Capdeville, 146 La. 94, 83 So. 421 (1919); Amerada Petroleum Corporation v. State Mineral Board, supra; State v. Cockrell, supra. We further find that Six Mile Lake was a stream in 1812 when the State of Louisiana was admitted into the Union and has remained as such until the present time. A careful review of the voluminous record makes it amply clear that Six Mile Lake has all the physical characteristics of a running stream with the power, force and velocity to carry sediment and to form alluvion and is, therefore, a true stream within the meaning of Articles 509 and 510 as defined by the jurisprudence of this State. In arriving at these conclusions, we were much impressed and relied heavily on the testimony of Professor R. A. Steinmayer, Dr. J. J. McDowell and Dr. W. A. Eggler. We have refrained from detailing the evidence upon which the foregoing conclusions are based as it has been ably set forth in an exhaustive review of the testimony and evidence by the trial judge in his fifty-five page well-reasoned opinion, as well as in the learned opinion of our brethren of the First Circuit Court of Appeal. Hence, a repetition thereof would serve no useful purpose.

It is contended in the second assignment of error that the Court of Appeal erred in holding that the banks of a stream belong to the riparian owner under the provisions of Article 455 and that Article 509 gives alluvion to the owner of the land adjacent to a river or stream. The pertinent articles of the Civil Code on the subject are Articles 455 and 509.

Article 455 provides as follows:

> "The use of the banks of navigable rivers or streams is public; accordingly, everyone has a right freely to bring his vessels to land there, to make fast the same to the trees which are there planted, to unload his vessels, to deposit his goods, to dry his nets, and the like.
>
> "Nevertheless, the ownership of the river banks belongs to those who possess the adjacent lands."

State-Gulf contend that Article 455 recognizes that river banks only are owned by the riparian owners, thereby impliedly reserving to the State the banks of other water bodies not expressly mentioned, including streams. Such argument has no valid basis either considering Article 455 alone or when read in pari materia with Article 509.

The first paragraph of Article 455 provides that the use of the banks of navigable rivers or streams is public. This provision is consistent only with the private ownership of the banks of both rivers and streams. If the State already owns the banks of navigable streams within its borders, there would be no necessity for such a provision with respect to streams as obviously the banks would be already subject to public use. Therefore, the second paragraph which provides that, nevertheless, the ownership of the river banks belongs to those who possess the adjacent lands, obviously refers to both navigable rivers and streams. Such construction of Article 455 coincides with the rule of property contained in Ar-

ticle 509 which gives alluvion to the owner of land adjacent not only to a river but also to a "stream." This issue was raised in connection with the area referred to as the Woodland Tract. We agree with the finding of the Court of Appeal that this area is composed of bank as opposed to alluvion, and inasmuch as Six Mile Lake has properly been classified as a stream, the bank thereof belongs to the riparian owner under Article 455.

In the third assignment of error, State-Gulf urge that even if Six Mile Lake is classified as a stream rather than a lake, the areas identified as Barnett's Cove and the Island Area were not formed by accretions and should not be considered alluvion, as that term has been defined in Article 509. State-Gulf's primary contention in reference to Barnett's Cove is that this area did not fill in successively and imperceptibly by natural processes, but rather was created artificially as the result of dredging operation conducted in Wax Lake Outlet. In affirming the findings of the court below on this point, we quote with approval the conclusion of the Court of Appeal:

> "Our review of the record satisfies us that the trial judge committed no manifest error in concluding that the preponderance of the evidence supports defendants contention that the area comprising 'Barnett's Cove' properly constitues alluvion or accretionary build-up of a land mass which is attached to and belongs to the riparian landowners. In making this determination, the trial judge relied heavily on the expert testimony of defendants' witness, Dr. McDowell. Dr. McDowell testified that while some of the alluvion was undoubtedly comprised of dredge spoil

material, nevertheless, this material was deposited as a result of the natural effects of running water rather than as a result of having been pumped into or placed directly in the 'Barnett's Cove' area. While this testimony is contradicted in certain respects by expert and lay testimony offered by State-Gulf, we find no manifest error committed by the trial judge in resolving this issue adversely to State-Gulf."

It is well established in our jurisprudence that as long as the formation of the alluvion or batture is successive and imperceptible, it is immaterial that acts of man contributed to the formation of the alluvion. St. Clair County v. Lovingston, 23 Wall 46, 90 U.S. 46, 23 L.Ed. 59; Amerada Petroleum Corporation v. State Mineral Board, supra; Esso Standard Oil Company v. Jones, supra; State v. Cockrell, supra. Accordingly, we conclude that, even though the dredging of Wax Lake Outlet may have contributed to the formation of the accretion in Barnett's Cove, the build-up was nevertheless successive and imperceptible and, under Article 509 and the cases interpreting that article, the accretion belongs to the riparian owners.

The remaining area of contention is that area referred to as the Island Area. It is the same area on which the Cockrell well was located. No well constituting a basis for this action is located on the Island Area, but ownership of this area has been again placed at issue in the instant case. We are concerned with the ownership of the accretionary area under the application of either Article 509 or 512, which latter article provides as follows:

"Islands and sand bars, which are formed in the beds of navigable rivers or streams, and which are not attached to the bank, belong to the State, if there be no adverse title or prescription."

State-Gulf concede that, if this area of accretion first manifested itself above low water and formed successively and imperceptibly to the shore of a river or stream in accordance with Article 509, it would be alluvion and would belong to the riparian owner; but, if the accretion first manifested itself above low water as an island or sand bar formed in the bed of a navigable river or stream and not attached to the bank, it belongs to the State under Article 512. There is no dispute over the fact that this accretionary area built "successively and imperceptibly;" the sole issue is whether it commenced at the shore and built outward to its present northern extremity or whether it originally emerged as an island or sand bar. While defendants urge that the record clearly establishes that this land mass built from the shore outward, alternatively, they argue that, even if the accretionary area was originally formed as an island or sand bar and subsequently attached to the shore, a literal reading of Article 512 would result in the divestiture of the State's title to the island by its subsequent attachment to the shore.

A substantial part of the testimony in evidence introduced in this case was in connection with this Island Area issue. It is interesting to note that the same "island" theory with respect to the same build-up was presented and rejected in the Cockrell case on the basis of the testimony of expert witnesses, Dr. J. P. McDowell and Dr. Willis Eggler who also testified on behalf of the defendants in this case. After evaluating and analyzing the

conflicting expert testimony and other evidence in the record, we conclude that the courts below correctly resolved this issue by finding that the accretionary area referred to as the Island Area was built up successively and imperceptibly from the shore outward to its present northern extremity in Six Mile Lake. Accordingly, this area is owned by the riparian owners under the provisions of Article 509. In arriving at this conclusion, we were more impressed with the expert testimony of the witnesses presented by the defendants than those offered by State-Gulf. Having thus concluded, it is unnecessary for us to consider defendants' alternative argument.

The fourth assignment of error is leveled at the method employed by the courts below in determining the ordinary low water line. The trial judge adopted and the Court of Appeal affirmed the method of calculation employed by defendants' engineer, Philip Whitaker. Mr. Whitaker's method is set forth in the opinion of the trial judge as follows:

> "He first obtained a complete set of gauge records of the U.S. Corps of Engineers of the Verdunville Gauge as recorded during the period of 1933 to 1962 and from these records the daily highs and lows were tabulated, and from that tabulation a graph was drawn * * * to show visually the water surface from year to year and to determine a low water season and a high water season during each particular year. He then averaged out the daily lows during the low water seasons over the entire thirty year period. * * * The result showed an ordinary low water line of +0.26 mean sea level, less the stipulated stream gradient of 0.15,

indicating an ordinary low water mark at Wax Lake Outlet of +.11 feet above mean sea level. The low water mark as determined by this method is plotted on Exhibit I-19."

State-Gulf contend that this method is objectionable because it is calculated on what Mr. Whitaker calls the "low water season" and averages the daily lows during that season. The complaint is that there is no formula or objective method in determining the "low water season," but rather it represents a completely subjective method in the selection of the low water season each year.

We disagree with this contention. A reading of the record clearly demonstrates that the method employed by Mr. Whitaker was the fairest and most reasonable method proposed. Accordingly, we conclude that the method of determining the ordinary low water line accepted by the courts below is well-founded and is approved by us upon review.

The fifth assignment of error is predicated on the complaint that the Court of Appeal erred in affirming the excessive expert witness fees allowed by the trial court. Placid was awarded $31,733.29 and Texaco, the sum of $31,345.94.

The statutory authority for fixing compensation of expert witnesses is R.S. 13:3666, which provides in pertinent part:

"A. Witnesses called to testify in court only to an opinion founded on special study or ex-

> perience in any branch of science, or to make scientific or professional examinations, and to state the results thereof, shall receive additional compensation, to be fixed by the court, with reference to the value of time employed and the degree of learning or skill required."

While we recognize that experts are entitled to not only a fee for their appearance in court, but also an award for their preparatory work, these fees must be reasonable and somewhat in line with the fees heretofore allowed by the courts of this State. Recreation and Park Commission v. Perkins, 231 La. 869, 93 So. 2d 198 (1957).

We likewise realize that valuable acreage and oil and gas production are involved in this litigation. Furthermore, the issues are technical and complicated and required special skill and training on the part of those who gave expert testimony.

With the foregoing in mind, we have reviewed the testimony of the expert witnesses during the trial on the merits, as well as during the hearing to tax costs, and have studied the invoices and statements which were filed into evidence. We conclude therefrom that the awards allowed by the courts below are excessive. This conclusion is based primarily on our finding that there was an excessive amount of costs and time expended in preparation of trial which includes field trips, engineering and survey work, conferences, reports and time waiting to testify. This preparatory work strikes us as being out of proportion to the time and scope of the testimony presented at the trial. Accordingly, we reduce

the expert witness fees to the following: Dr. John P. McDowell, $2,800.00; Dr. Willis A. Eggler, $2,300.00; Dr. R. Kazmann, $350.00; Prof. R. A. Steinmayer, $3,700.00; William Clifford Smith of the firm of T. Baker Smith & Son, Inc., Civil Engineers and Surveyors, $9,000.00; Philip Whitaker of the firm of F. Shutts' Sons, Civil Engineers, $12,500.00; Louis C. Peters of the firm of Barnett & Peters, Consulting Foresters, $2,700.00.

The effect of these reductions will reduce the total awards of expert witness fees to Placid from $31,733.29 to $18,150.00, and to Texaco from $31,345.94 to $15,200.00. Furthermore, we find that the assessment of court costs against State-Gulf, in solido, with Gulf to pay any portion thereof that the State is exempt from paying by law (R.S. 13:4521) is correct.

In the sixth assignment of error, State-Gulf pray that this Court modify the judgment of the Court of Appeal in accordance with their assigned errors. As set forth above, we have reviewed each of the assigned errors, but have found merit only in the fifth assignment of error. Therefore, the judgment of the Court of Appeal will be amended only to that extent.

The Court of Appeal found merit in the contention of State-Gulf that the trial judge erred in failing to give effect herein to Act 341 of 1952 (R.S. 9:1151) with respect to the lease by the State to Gulf dated April 18, 1956.

Act 341 of 1952 (R.S. 9:1151) provides as follows:

"In all cases where a change occurs in the ownership of land or water bottoms as a result of

> the action of a navigable stream, bay or lake in the change of its course or bed, or as a result of accretion, dereliction, or other condition resulting from the action of a navigable stream, bay or lake, the new owner of such lands or water bottoms, including the state of Louisiana, shall take the same subject to and encumbered with any oil, gas and/or mineral lease covering and affecting such lands or water bottoms, and subject to the mineral and royalty rights of the lessors in such lease, their heirs, successors and assigns, the right of the lessee or owners of such lease and the right of the mineral and royalty owners thereunder to be in no manner abrogated or affected by such change in ownership."

Placid contended that if the foregoing statute be found applicable, it is unconstitutional in that it violates its constitutional rights against deprivation of property without due process and impairment of the obligations of a contract. The Court of Appeal correctly rejected this contention and found Act 341 of 1952 constitutional and applicable in this case.

Hence, in accordance with Act 341 of 1952, any changes in the ownership of land or water bottoms after April 18, 1956, the date of the lease from the State to Gulf, is subject to and encumbered with said mineral lease insofar as it covers such lands or water bottoms as is clearly set forth in said statute.

The Court of Appeal then properly reversed the judgment of the district court to the extent that it cancelled and annulled State Lease No. 2963 granted to Gulf on

April 18, 1956, insofar as it purports to affect the property described in the judgment and remanded the case for the limited purpose of establishing the ordinary low water line in the areas in controversy as of April 18, 1956 in order to determine the effect of State Lease No. 2963 to Gulf on land areas located on the water side of the ordinary low water line as determined to have existed on that date. The case was further correctly remanded for the purpose of ascertaining whether any judgment should be rendered against Placid and in favor of State-Gulf for the value of oil and gas which may have been produced from or attributable to the land areas in question located on the water side of the ordinary low water line as same is determined to have existed on April 18, 1956, as well as ascertaining the rights, if any, of Placid to be reimbursed for allocable drilling and operational costs of any of the three wells in question. The Court of Appeal further properly reversed that part of the judgment of the district court which recognized Placid, McDermott and Texaco as the owners of mineral leases affecting all of the property described in the judgment and remanded same for the purpose of determining what part, if any, of the land area in question is validly covered by State Lease No. 2963 dated April 18, 1956 to Gulf Refining Company, that is, on the basis of the ordinary low water line as same is determined to have existed on April 18, 1956.

Placid alternatively argues in its brief to this Court that, if it be determined that all or any part of the area in controversy is owned by the State of Louisiana as opposed to the riparian owners, who are Placid's lessors, it is the position of Placid that Gulf does not hold a valid lease from the State and that any part of the area in controver-

sy owned by the State is covered and included in State Lease No. 3643 granted by the State to Placid on February 24, 1960. This issue was determined adversely to Placid by the Court of Appeal. We have reviewed the ruling of the Court of Appeal on this point and agree with its conclusion. Accordingly, the southern boundary of the Gulf lease, as corrected, is the original meander line; however, its effect, as previously indicated, extends only to the ordinary low water line as such is determined on remand to have existed as of April 18, 1956.

For the reasons assigned, the judgment of the Court of Appeal is affirmed in all respects except as to the assessment of expert witness fees which is amended as hereinabove set forth.

Justices Barham, Tate and Calogero dissent.

APPENDIX "C-1"
DISSENTING OPINION OF JUSTICE BARHAM

(Date of Entry: December 3, 1973)

SUPREME COURT OF LOUISIANA

NOS. 53,294 and 53,295

STATE OF LOUISIANA, ET AL.

versus

PLACID OIL COMPANY, ET AL.
(INTERVENTION OF TEXACO, INC.)

BARHAM, Justice, Dissenting.

The majority opinion in this case if it persists portends the most catastrophic effect of any case in recent years upon the public fisc, our natural resources, our ecology, our environment, and the public in general. The majority, under its holding, has deprived, or will deprive, this State and its people over the next few decades almost to a certainty, of nearly 200 square miles of public land which was the bottom of Grand Lake in 1812. Moreover, the rule of law laid down in the majority opinion, makes the loss incalculable if it is followed in cases affecting other bodies of water which we have always called "lakes". The majority decision has to stand, if at all, upon questionable interpretations of four Supreme Court cases and one Court of Appeal case. Miami Corporation v. State, 186 La. 784, 173 So. 315 (1936); Amerada Petroleum Corporation

v. State Mineral Board, 203 La. 473, 14 So.2d 61 (1943); Amerada Petroleum Corporation v. Case, 210 La. 630, 27 So.2d 431 (1946); Esso Standard Oil Company v. Jones, 233 La. 915, 98 So.2d 236 (1957); and State v. Cockrell, 162 So.2d 361 (La. App. 1st Cir. 1964).

The majority has decided that these cases force a conclusion that a lake is not necessarily a lake, that a lake may be a river or a stream. Amazingly, the result reached by the majority comes from inverse logic. The question presented to the majority was whether or not Civil Code Article 509 applied to Six Mile Lake, which is an undefinable part of the larger body of water called Grand Lake. Article 509 provides:

> "The accretions, which are formed successively and imperceptibly to any soil situated on the shore *of a river or other stream, are called alluvion.*" (Emphasis supplied.)

and further provides that the alluvion belongs to the riparian owner *on a river or a stream.* Now, instead of deciding whether or not Six Mile Lake is a river or a stream to which the rule of alluvion would apply, the majority has put the cart before the horse and determined that they have found alluvion in Six Mile Lake, therefore, Six Mile Lake is "a river or other stream."

I find it most difficult to pen an articulate dissent in this case because everything which needs to be said has been said so many times before. It is true that in Louisiana the bottoms of navigable waters are owned by the State, and most authorities conclude this ownership flows from the

inherent sovereignty of the State when it became a part of the United States in 1812. See Shively v. Bowlby, 152 U.S. 1, 14 S.Ct. 548, 38 L.Ed. 331 (1894); State v. Richardson, 140 La. 329, 72 So. 984 (1916); and State v. Bozeman, 156 La. 635, 101 So. 4 (1924). Special provision has been made in our Civil Code so that upon navigable *rivers and streams* the State's ownership of the bottoms of these waters moves as the banks are changed by alluvion or dereliction. Civil Code Articles 509 and 510. No such provision is made in our Civil Code for changing State ownership of the bottoms of lakes. To the contrary, alluvion, with which we are concerned here, is specifically confined to non-lakes, i.e., to rivers or other streams.

The majority admits "It is well settled that, under Article 509, accretions formed successively and imperceptibly on the shores of rivers or other streams, whether navigable or not, belong to the owners of the property to which they attach, but this is not the law in the case of lakes, bays and arms of the sea." For this proposition the majority cites the very same cases upon which it relies for determining that the law of alluvion set forth in Article 509 applies to the *lake* here — Six Mile Lake. As I previously said, they determine that Six Mile Lake is governed by Article 509 simply because they find that alluvion, which is the subject of that article, forms in Six Mile Lake.

The majority opinion rests first upon the Miami Corporation case, which they admit never decided the issue before us in the present case. The Miami Corporation case erred in holding that State v. Erwin, 173 La. 507, 138 So. 84 (1931), had overruled New Orleans Land Company v. Board of Levee Commissioners of Orleans Levee District,

171 La. 718, 132 So. 121 (1930). The cases cited in the Miami Corporation case for support do not, in fact, lend support to its holding or the holding here. The dissent of Mr. Chief Justice O'Niell in the Miami Corporation case best discusses and differentiates the various jurisprudential holdings and ably points to the error of the majority. State v. Bozeman, supra, relied upon by the majority in Miami, gives no succor to the majority opinion herein or in Miami. Bozeman found that although Cross Lake once had its high elevation mark at 172 feet, the lake waters had receded to such an extent that at the time of the suit the outlet of the lake drained (I suppose running waters) from the lake so there were no more than 2 feet of water in its deepest part at any time. During the summer months the lake was entirely dry. The court held, however, because Cross Lake had once been a lake with water which covered land up to the 172 ft. contour at high water, that land was retained by the State although dereliction had uncovered most of the land year-round, and all of the land for many months during the summer.

The majority here says of the Miami case:

> "The Court then stated that: '* * * Having reached the above conclusion, it is unnecessary to consider the applicability of articles 509 and 510 of the Revised Civil Code to this case.' Thus, the lake-stream issue was not presented in that case [Miami] for the obvious reason that the rule announced by the Court applied to any navigable water whether it was a lake, stream or otherwise."

Yet the majority concludes, and I believe correctly, that our sole issue in deciding whether to apply alluvion and dereliction to Grand Lake is whether it is a *lake* or *a river or stream*. The majority apparently agrees with me that the Miami v, State rule is erroneous. This leaves the majority with the two Amerada cases and Esso Standard Oil Co. v. Jones to support its lengthy dissertation upon why the provisions of Civil Code Article 509, dealing with alluvion on the shore of a river or other stream, has application to a fresh water lake.

We now examine the Amerada Petroleum cases, which must sustain the majority, if anything in the way of jurisprudence does. If we accept Amerada Petroleum Corporation v. State Mineral Board, and Amerada Petroleum Corporation v. Case, for what they say, then we will find a holding by that court that Grand Lake and Six Mile Lake are lakes. Those cases are concerned with the source water which flows into Grand Lake out of "the arm of Grand Lake." The court, referring to *the arm* of Grand Lake, said:

> "* * * This latter body of water, is, in fact, a stream flowing between banks having all of the characteristics of a wide river, which appears to be only the widening of Bayou Crook Chene. This stream, called *the arm* of Grand Lake, *then in turn connects with Grand Lake* at a point where another stream known as Chicot Pass, connecting Chicot Lake with *Grand Lake*, empties into *Grand Lake*. * * *" (Emphasis supplied.)

The Court then compares the relative insignificance of the widths of *the arm* of Grand Lake and of *Grand Lake*

itself. The Amerada cases distinguish the two and sub silentio acknowledge *Grand Lake* to be a *lake.*

I must finally distinguish Esso Standard Oil Company v. Jones. That case dealt with Deer Park Bend, which was formerly the main course of the Mississippi River, but which, at the time of suit, carried the river water in a river current only part of the year because the main channel had changed its course. The court finitely defined Deer Park Bend:

> "* * * There could be a good argument that it [Deer Park Bend] is a prong or a branch of the river and, therefore, a river, but there can be a distinction between a river and a stream. It would be more correct, in my opinion, under the facts in this case to say that this old channel is now a stream. Apparently the language of the Article acknowledges that there is a distinction between a river and a stream. *Smaller streams may go completely dry in the summer and resume their flow with the coming of winter rains.* They must still retain their status as streams and when they do flow any accretions by alluvion would belong to the riparian owners where that takes place." 233 La. at page 935. (Emphasis supplied.)

When finally one has dissected all of the jurisprudence, one must come to the conclusion that the most definite thing established is that Civil Code Articles 509 and 510 do not apply to navigable *fresh water lakes* or arms of the sea.

Writers have often referred to the fact that our Code

does not contain the French Civil Code provision dealing with lakes. These writers have quickly said that the lakes referred to in Code Civil 558 are not of the nature of the lakes with which we are concerned. Writers have also stated that lakes in France, which have a continually flowing head water and discharge channel, are considered as a part of the river which forms the head water and the discharge channel. However, vast differences exist between such lakes in France and in the lakes with which we are concerned here in Louisiana. Most of the lakes in Louisiana, having rivers or streams as head waters and having continuous discharge, are shallow, cover tremendous land areas, and are often in the nature of marshlands. They are not the deep receptacles which are found in many other parts of our country and in France.

Our government has seen fit to drain, levee, dredge and channel for flood control and land reclamation in many of these water covered areas. The primary beneficiaries of these conservation and protection measures are the land owners whose property abuts the lakes. When lake bottoms are uncovered for these land owners' direct benefit, why should they be entitled to the newly uncovered land, in addition to the protective and conservative benefits they have already acquired? In Grand Lake and its environs, tremendous public works have been carried on for many years, trying to control the Atchafalaya River and the Mississippi River. Extensive levees have been built, new channels have been dredged. Eventually there will be a deep water channel, man-made, all the way through Grand Lake. It appears that our government intentionally and purposely is exposing and will continue to expose the land formerly covered by water which was Grand Lake. Eventually there may be only a narrow channel

carrying all of the water in Grand Lake and leaving the lake bottom dry, as occurred in Cross Lake in State v. Bozeman, supra. All of the experts in this case admit that much of the alluvion formed in the lake results from the conservation, protection and reclamation efforts of the government. It is the public who should benefit by retention of public ownership of the newly exposed land and not the land owners whose property adjoins these lakes.

There is no provision in law, and especially is there no provision in the Civil Code, which gives the riparian owner on fresh water lakes the right to claim lands once submerged or lands which attach by an accretion. The jurisprudence is all to the contrary, including the Amerada cases. See State v. Aucoin, 206 La. 787, 20 So.2d 136 (1944), and the cases cited at 206 La. 827.

Surely there are some lakes in Louisiana. The Erwin case said Calcasieu Lake, a tremendous expanse of water in Calcasieu Parish, is a lake. It has always been known as a lake. It is designated on official maps by every department of this State and of the United States, including the Corps of Engineers, as a lake. The same can be said for Grand Lake in Cameron Parish, as well as for the Grand Lake we consider here and its segment known as Six Mile Lake. Long Lake, which is a dry piece of land and has been for some time, was, and is a lake, insofar as ownership of its bed is concerned. State v. Aucoin, supra. There are literally thousands of square miles of land which were *lake* "bottom" in 1812, which this majority opinion says were and are merely *stream* "bottom".

It is of particular importance to note here that our words "river" and "stream" come from the French words

"fleuve" and "rivière". Fleuve is a river like the Mississippi, the Red, the Black, and the Atchafalaya. Streams are those smaller running bodies of water which, according to the French, carried some kind of flotation. Amazingly, the majority has said, oh, of course, Grand Lake is not a river (a large body of water) it is a stream (a very small running riverlet or creek). It is impossible for my mind to conclude that a body of water, which is as much as 30 miles in length and 10 miles in width, is a mere stream or riverlet. The majority must be overruling Erwin with specificity since it discussed it so thoroughly, and there we were concerned with a body of water 18 miles long, over 4-1/2 to 14 miles wide. I am of the opinion that State v. Erwin is a correct statement of the law applicable to this case.

Obviously, the redactors of our Code, who were very familiar with the French language, never intended rivieres to include such bodies of water as these. More, we must credit them with knowing that there were certain waters confined in such manner as to be designated as lakes, as opposed to rivers and streams. When they said alluvion applies only to rivers and streams, au contraire, they did not mean that alluvion applies to lakes. They needed no other article to clarify the explicit statement of law they enacted. Grand Lake is a large lake and Six Mile Lake, a segment of that lake, is also a lake. All geographers and engineers have designated the water area we consider as a *lake*. It has never been disputed until this very case. The United States Corps of Engineers has designated this area to be a *lake*.

I am of the opinion that neither alluvion nor dereliction apply to lakes. I am of the opinion that lakes may exist

even though they have current consistently in a portion of their confines. I am of the opinion that lakes exist even when rivers or streams source them and empty them continuously. I am of the opinion that the geological information about velocity, capacity, power, force and thalweg, do not change a lake into a stream. As I understand the testimony and the record, and the majority appears to agree with my conclusion, these geological findings are merely "the physical characteristics of a running stream with the power, force and velocity to carry sediment *and to form alluvion* * * *

The majority errs when it says because there is within this lake at certain points, power, force, and velocity sufficient to carry sediment and to form alluvion, then this lake becomes a stream within the meanings of Articles 509 and 510. As I said in the beginning, and have repeated, and must repeat once more, we cannot determine that a body of water is a stream simply because alluvion will form. Conversely, we must determine if a body of water is a stream before we can determine that there is alluvion as defined by law. The law of alluvion applies only to rivers or streams. Since Grand Lake and Six Mile Lake are *lakes*, the alluvion formed there does not come under the legal principle applicable to alluvion formed in rivers or streams. This is the simple answer to the question of law posed here.

The illogical approach of the majority is convincing at first reading. Lesser artists at logic, as well as greater ones, have won many a debate by convincing their audience to accept the *deduction* which they wish to make, as the *premise* with which they should begin. Instead of following Article 509 and stating, "we begin with

a premise that a body of water must be a river or creek or stream before the laws of alluvion can apply," the majority states the premise as assuming that where there is alluvion, the body of water where it is formed must be a stream. As artful as is the majority opinion, it must, upon close examination, fall because it is, in final analysis, not only bad logic, not only contrary to the jurisprudence, but more particularly it is contrary to the Civil Code.

Regarding lakes such as Calcasieu, Grand Lake in Cameron, the Grand Lake and Six Mile Lake segment we now consider, I am of the opinion that the high water mark of 1812 forever sets the boundary for landowner and for water bottom owner - the State. Neither can gain or lose because of water retrenching or encroaching because of land submerging or emerging. When lake water covers private land, the land covered remains as part of the title of the riparian landowner. His exercise of dominion and use of the land under that water are nevertheless subject to State control to the extent it is necessary to protect navigable water interests of the State. Not only the land, but the mineral rights and the other appurtencances remain in full title with the landowner. To this extent, I am of the opinion that the jurisprudence which says that the State must always own the water bottom, even though the new bottom is formed by recession of waters or displacement of land mass, is incorrect as applied to lakes. Navigable rivers and streams and their water bottoms, as covered in a given time, are the land owned by the State, according to the provisions of Articles 509 and 510 of the Civil Code.

We adopt ownership of water bottoms as one means of controlling the waters themselves, their navigability, the

fishing rights and the other rights of the public. Ownership of the water bottom is not necessary to the exercise of these police powers for the public's good. The State may find its lake waters encroaching upon private land, yet ownership of that newly covered land may still vest in the riparian owners. Nevertheless, the State can control the surface water rights for the public's good. If the State gains land by recession of lake water, it retains that land for the public's good. See State v. Aucoin, supra.

In this day and time, when environment, ecology, and conservation of natural resources are of such vital concern to the public, at this time when public lands and lands for the use in common are rapidly disappearing, at this time when society appears on the verge of desecrating the last vestige of the natural environment of this country, it is most important as a matter of public policy that we make every attempt to conserve for the public as much of the vital natural resources as the law will permit. Additionally, it seems unfair that the owner of a few acres of riparian land may acquire so much State land simply because the government tries to protect the public from floods, and to reclaim resources unusable in the present state. The riparian owner should not suffer if there is an encroachment of public lake waters upon his land, but neither should he benefit while the rightful beneficiary, the public, is milked of public monies and public resources. Public policy demands here coincide with the positive legal mandate of the Code.

I reiterate that the rule of law stated in State v. Erwin correctly interprets and applies our Code provisions. I adopt as part of my reasons for dissent, the dissent of Chief Justice O'Neill in Miami Corporation v. State.

I respectfully dissent.

APPENDIX "D"

OPINION OF LOUISIANA SUPREME COURT ON REHEARING

(Date of Entry: June 10, 1974)

SUPREME COURT OF LOUISIANA

STATE OF LOUISIANA, ET AL

versus Nos. 53,294 and 53,295

PLACID OIL COMPANY, ET AL
(INTERVENTION OF TEXACO, INC.)

ON REHEARING

SANDERS, Chief Justice.

We granted a rehearing in this case because of the importance of the legal issues to the people of the State of Louisiana. Although the bare controversy between the State and defendants is the ownership of a tract of land located below the high-water mark of Grand Lake-Six Mile Lake in St. Mary Parish, the decision has far-reaching consequences, affecting that State's natural resources, ecology, and the public fisc.

For the purposes of rehearing, the facts set forth in the original opinion may be summarized. The State of Louisiana, joined by Gulf Oil Corporation, its lessee,

seeks to be declared the owner of an area of land, on which several oil wells are located, lying below the highwater mark of a large body of water known as Grand Lake-Six Mile Lake in St. Mary Parish, adjacent to Sections 49, 50, and 68, Township 15 South, Range 11 East. In 1812, when Louisiana was admitted into the Union, Grand Lake-Six Mile Lake was navigable. The areas in dispute are referred to as the Woodland Tract, Barnetts Cove, and The Island area. As found on original hearing, the Woodland tract is part of the bank of the water body. The record discloses that the remaining area was as late as 1935 a part of the bottom of Grand Lake. During the ensuing years, however, sedimentary deposits caused a buildup, transforming the area into alluvion lying below the ordinary high-water mark. A fair inference, we think, is that the sedimentary deposits were accelerated by the channeling and dredging performed by governmental agencies as part of an extensive water-resource program.

Although State-Gulf makes a most persuasive argument that the land formation in the Barnett and Island areas is not alluvion, we accept the findings of the lower courts that it is alluvion, that is, accretions formed successively and imperceptibly on the shore. See LSA-C.C. Art. 509.

As correctly noted in our original opinion, the State of Louisiana upon its admission to the Union acquired title to all lands within its boundaries below the ordinary high-water mark of navigable bodies of water, with the power to determine the rights of riparian owners. Shively v. Bowlby, 152 U.S. 1, 14 S.Ct. 548, 38 L.Ed. 331 (1894); State v. Richardson, 140 La. 329, 72 So. 984 (1916).

Through statutory provisions, the State of Louisiana has defined the rights of riparian owners.

As to navigable rivers and streams, the State holds in its sovereign capacity all the land that is covered by water at its ordinary low state. The bank belongs to the owner of the adjacent land, subject to public use. LSA-C.C. Arts. 455, 457; Wemple v. Eastham, 150 La. 247, 90 So. 637 (1922). As to lakes, the State has never ceded, and still holds, the land below the ordinary high-water mark. See LSA-C.C. Art. 455; State v. Aucoin, 206 La. 786, 20 So.2d 136 (1944); State v. Bozeman, 156 La. 635, 101 So. 4 (1924); State v. Capdeville, 146 La. 94, 83 So. 421 (1919); Milne v. Girodeau, 12 La. 324 (1838).

Article 509 of the Louisiana Civil Code, regulating the ownership of alluvion, provides:

> "The accretions, which are formed successively and imperceptibly to any soil situated on the shore of a river or other stream, are called alluvion.
>
> "The alluvion belongs to the owner of the soil situated on the edge of the water, whether it be a river or stream, and whether the same be navigable or not, who is bound to leave public that portion of the bank which is required by law for the public use."

By its terms, the foregoing article applies only to rivers and other streams. Thus, alluvion formed on the shores of rivers or streams belongs to the adjacent landowners. The principle of accretion, however, is inapplicable to lakes.

As to lakes, the adjacent landowners have no alluvial rights. Esso Standard Oil Company v. Jones, 233 La. 915, 98 So.2d 236 (1957); Amerada Petroleum Corporation v. Case, 210 La. 630, 27 So.2d 431 (1946); Zeller v. Southern Yacht Club, 34 La. Ann. 837 (1882).

The crucial determination is whether at the time of Louisiana's admission to the Union, Grand Lake-Six Mile Lake was a stream or lake. If it was a stream, the banks belong to the riparian owners, and the law of accretion applies. Thus, the disputed land would belong to the adjacent landowners. If, on the other hand, it was a lake, the banks are state-owned and accretion is inapplicable. Thus, the disputed land would belong to the State in its sovereign capacity.

On original hearing, in holding that Grand Lake-Six Mile Lake was a stream, as distinguished from a lake, we stated:

> "[A] body of water through which a current flows or runs with such capacity and velocity and power as to form accretions is characterized as a river or stream, depending upon all attending circumstances, for the purpose of applying the rules of accretion and dereliction set forth in Articles 509 and 510 of the Civil Code."

We now think we erred in holding the body of water to be a stream, primarily because of two basic errors:

(1) In holding that Amerada Petroleum Corporation v. State Mineral Board, 203 La. 473, 14

So.2d 61 (1943) overruled State v. Erwin, 173 La. 507, 138 So. 84 (1931).

(2) In giving undue weight to the existence of water current capable of forming accretions as a basis of classification.

In State v. Erwin, supra, this Court was concerned with the classification of Calcasieu Lake in Cameron Parish as a lake, river, or stream. That body of water was 18 miles long and varied in width from 4-1/2 to 14 miles. The Calcasieu River traversed the water body from north to south, then continued its flow toward the Gulf of Mexico. At times, there were perceptible currents in the water, and it was affected by tides.

In holding that the water body was a lake rather than a stream on original hearing, this Court stated:

> "In our opinion, however, the better view — with reference to the laws, governing alluvion and dereliction — is to regard such a vast expanse of water as Calcasieu Lake as being in fact a lake, although a river empties into the sea through it." (138 So. at 86)

On rehearing, the Court adhered to the holding that the body of water was a lake.

In Miami Corporation v. State, 186 La. 784, 173 So. 315 (1937), this Court dealt with the stream-lake classification of Grand Lake in Cameron Parish. The Court described it as a "navigable body of running water." It

was about ten miles long and from three to nine miles wide. The Mermentau River flowed into and out of the lake. There was sufficient current to carry sediment. The Court overruled State v. Erwin, supra, as to a point not pertinent here. In holding the body of water to be a lake, however, it reaffirmed the *Erwin* lake classification, stating: "Grand Lake, like Calcasieu Lake, was a navigable lake, when Louisiana was admitted to the Union in 1812." (173 So. at 319).

Amerada Petroleum Corporation v. State Mineral Board, supra, referred to as *First Amerada,* dealt with the Arm of Grand Lake. In describing its characteristics, the Court contrasted it to Grand Lake, the body of water to be classified here, stating:

> "This . . . body of water is, in fact, a stream flowing between banks having all of the characteristics of a wide river, which appears to be only the widening of Bayou Crook Chene. This stream, called the arm of Grand Lake, then in turn connects with Grand Lake at a point where another stream known as Chicot Pass, connecting Chicot Lake with Grand Lake, empties into Grand Lake. The stream known as the arm of Grand Lake has a width between banks of 3,960 feet at its northern point and 4,400 feet at a point opposite Lot 4 of Section 31, Township 11 South, Range 10 East. This width is relatively insignificant as compared to the width of Grand Lake, and this width between banks negatives the idea that it is a lake instead of a widening branch or fork of the Atchafalaya River. Also emptying into the body of water known as the Arm of

> Grand Lake is a bayou known as Bayou Nimrod, which connects with Bayou Chene through a connection with another bayou known as Dead Man's Bayou, and Bayou Chene, with which Bayou Nimrod is thus connected, is clearly one of the forks of the Atchafalaya River, and Bayou Nimrod itself is also another fork of the Atchafalaya River." (14 So.2d at 71)

The Court concluded:

> "The trial judge held that the arm of Grand Lake is a stream of flowing water and that Article 509 of the Civil Code applies to the alluvion on its banks. Regardless of the characterization of the water as a river or merely as a flowing stream, the conclusion reached by the trial judge is correct." (14 So.2d at 72)

First Amerada makes only one reference to State v. Erwin, supra. That reference is not to overrule, but to distinguish. The Court stated:

> "The cases of State v. Erwin, 173 La. 507, 138 So. 84, and Miami Corporation v. State, 186 La. 784, 173 So. 315, also are referred to in their brief by counsel for appellants as authority for the contentions urged by them, but neither of these cases is decisive of the question involved in this case." (14 So.2d at 72)

Our examination of *First Amerada* convinces us that it accomplished no overruling of State v. Erwin. Rather, it

considered the characteristics of the particular water body, bearing no resemblance to that involved in *Erwin*, and classified it as a flowing stream or river.

Amerada Petroleum Corporation v. Case, supra, *Second Amerada*, involved part of the identical alluvion dealt with in *First Amerada*. The Court held that the earlier decision controlled.

In 1951, after the *Amerada* decisions, this Court had before it Doiron v. O'Bryan, 218 La. 1069, 51 So.2d 628 (1951), involving Calcasieu Lake, the same water body classified as a lake in State v. Erwin. Although the Court referred to the overruling of State v. Erwin in the Miami Corporation case on the extraneous point, it adhered to the *Erwin* holding as to the lake classification, stating:

> "The case at bar, nonetheless, involves a navigable lake to which these rules of riparian ownership do not apply." (51 So.2d at 632)

The only remaining case cited by the defendants as repugnant to State v. Erwin is Esso Standard Oil Company v. Jones, supra. There, a cut-off was dredged across the neck of a large loop (Deer Park Bend) in the Mississippi River. When the water of the river was diverted into the cut-off, alluvial deposits were made in the loop. The Court held that the alluvion, on the river loop, belonged to the riparian owner. State v. Erwin was not cited in the decision. Because of the physical characteristics of the river loop, no conflict with the prior decision can be noted.

We conclude, contrary to our first impression, that the holding of State v. Erwin as to the classification of lakes has not been overruled.

It is true that sectors of the Court's language in several of the above cases focus strongly upon the existence of accretion-forming current in the water body. When these decisions are read as a whole, however, it is evident that the Court considered, not one, but several characteristics of the water body in making its classification. Our synthesis of these cases yields a conclusion that the existence of accretion-forming current is not, by itself, decisive of a stream classification. As noted in the dissenting opinion on original hearing, a holding that accretion-forming current alone is determinative that the water body is a stream would mean that all alluvion on all water bodies accrues to the riparian owners, contrary to the intent of Article 509, the formal expression of legislative will.

In our opinion, the jurisprudence, as well as the expert testimony, supports a multiple-factor test for classifying a water body as a lake or a stream. A judgment must be based upon a consideration of pertinent characteristics. Among these are the size, especially its width as compared to the streams that enter it; its depth; its banks; its channel; its current, especially as compared to that of streams that enter it; and its historical designation in official documents, especially on official maps. See State v. Erwin, supra; Miami Corporation v. State, supra; Amerada Petroleum Corporation v. State Mineral Board, supra; Esso Standard Oil Company v. Jones, supra; Amerada Corporation v. Case; supra; Zeller v. Southern Yacht Club, supra. State v. Jefferson Island Salt Mining Company, Inc., 183 La. 304, 163 So. 145 (1935); Gulf Refin-

ing Company v. Grace, 165 La. 979, 116 So. 405 (1928); State v. Bozeman, 156 La. 635, 101 So. 4 (1924).

Considering these factors in the present case, we find that Grand Lake-Six Mile Lake is one of the five largest water bodies in Louisiana. From earliest times, it has been designated on official maps as a lake. In 1812, at the time Louisiana was admitted to the federal union, the body was also known as Lake Chetimaches or Lake Sale (Salt Lake). It was about 30 miles long by 3 to 10 miles wide. It had a "Thalweg depth of only 8 feet."

The water body was subject to the ebb and flow of the tide. Because of the tidal action, the water was brackish and populated by salt water fish.

The record reflects that Grand Lake is about 20 times wider than the Atchafalaya River, which enters it; that currents are reduced substantially in the lake; that 75% of the sedimentation is deposited in the lake, and only 25% is carried out.

In summary, Grand Lake-Six Mile Lake is a wide, irregularly shaped body of water of great size, relatively shallow in depth, with a current substantially slower than that of the inflowing river. In its main characteristics, it is similar to Lake Pontchartrain and Lake Calcasieu. Historically, it has always been designated as a lake.

We hold that it was a lake in 1812, when Louisiana was admitted to the Union. Accordingly, it must now be classified as such. It follows under the principles already

announced that the State owns its banks and that the accretion rule of Louisiana Civil Code Article 509 is inapplicable to it.

The defendants, however, assert on rehearing that the recent decision of the United States Supreme Court in Bonelli Cattle Co. v. Arizona, 414 U.S. 313, 94 S.Ct. 517, 38 L.Ed.2d 526 (1973) requires that the defendants be recognized as the owners of the disputed property, whether the water body be classified as a navigable stream or a lake.

The circumstances that gave rise to the *Bonelli* case are as follows. In 1910, prior to Arizona's admission to the union, the United States government patented the subject land as part of a larger parcel to the Sante Fe Pacific Railroad Company. The parcel abutted the east bank of the Colorado River. Upon Arizona's admission to the Union in 1912, the State acquired title to the bed of the Colorado River. In 1955, the Bonelli Cattle Company acquired title to the subject property. By 1959, however, because of the gradual eastward movement of the river, eroding the east bank and depositing alluvion on the west bank, the subject property was covered by water and became part of the state-owned riverbed. In 1959, a federal Bureau of Reclamation project for the building of Hoover Dam rechanneled the Colorado River, withdrawing it from the subject land.

The Arizona Supreme Court held that the State was not divested of the title to the land and that the State still owned the resurfaced land to a former high-water mark, the ordinary highwater mark as it existed in 1938, before the operation of Hoover Dam reduced the water flow.

The United States Supreme Court held that federal law rather than state law applied. As to the applicable law, the Court stated:

> "The present case, however, does not involve a question of the disposition of lands, the title to which is vested in the State as a matter of settled federal law. The very question to be decided is the nature and extent of the title to the bed of a navigable stream held by the State under the equal-footing doctrine and the Submerged Lands Act. In this case, the question of title as between the State and a private landowner necessarily depends on a construction of a 'right asserted under federal law.' "

On the merits, the Court held that the riparian owner regained title by accretion, holding:

> "The advance of the Colorado's waters divested the title of the upland owners in favor of the State in order to guarantee full public enjoyment of the watercourse. But, when the water receded from the land, there was no longer a public benefit to be protected; consequently, the State, as sovereign, has no need for title. That the cause of the recession was artificial, or that the rate was perceptible, should be of no effect.
>
> "Nor does the Submerged Lands Act provide a basis for the State's claim to the subject lands. The Arizona Supreme Court incorrectly construed this Act as a grant by Congress to the States of lands '*formerly* beneath navigable

waters.' The Act did not abrogate the federal law of accretion, but defined lands beneath navigable waters as being those covered by streams as 'hereafter modified by accretion, erosion, and reliction.' Contrary to the implication raised by the Arizona Supreme Court, the Submerged Lands Act creates no new rights for the States in the beds of their inland waterways. The Act is not a grant of title to land by only a quitclaim of federal proprietary rights in the beds of navigable waterways. The Act specifically excepts from its scope lands lawfully conveyed or patented by the United States. Since the Act does not extend to the States any interest beyond those afforded by the equal-footing doctrine, the State can be more base its claim to lands unnecessary to a navigational purpose on the Submerged Lands Act than on that doctrine." (38 L.Ed.2d at 537-538)

As we view it, the *Bonelli* decision is inapplicable to the present case. The area in dispute there, once privately owned, was no longer part of the river bed. The Court found it to have a location above the *present* high-water mark.[1] The instant case involves a bank area and alluvion below the present ordinary high-water mark of the lake. Unlike the land in *Bonelli*, the title to the disputed area here is vested in the State "as a matter of settled federal law." See Arkansas v. Tennessee, 246 U.S. 158, 38 S.Ct. 301, 62 L.Ed. 1213 (1917); Shively v. Bowlby, 152 U.S. 1, 14 S.Ct. 548, 38 L.Ed. 331 (1894); Hardin v. Jordan, 140 U.S. 371, 11 S.Ct. 808, 35 L.Ed. 428 (1891).

1 In a supplemental brief, defendants contend from maps appearing in the State court decisions that the disputed area was located below the high-water mark. The maps are unclear on this point. In any event, the United States Supreme Court adjudicated on the basis that "the State of Arizona will continue to hold title to the bed . . . to its present high-water mark." (38 L.Ed.2d at 536-537)

It follows that in the present case state law governs the rights of riparian owners. Bonelli Cattle Co. v. Arizona, supra; Arkansas v. Tennessee, supra; Shively v. Bowlby, supra.

In Bonelli Cattle Co. v. Arizona, supra, the United States Supreme Court reaffirmed the state-law principle, stating:

> "We continue to adhere to the principle that it is left to the States to determine the rights of riparian owners in the beds of navigable streams which, under federal law, belong to the State." (38 L.Ed.2d at 535)

Finally, we recognize that our present holding is contrary to the decision of the intermediate Court of Appeal in State v. Cockrell, 162 So.2d 361, cert.den. 246 La. 343, 164 So.2d 350 (1964). That decision, of course, has already been weakened by the recorded opinion of its author that the decision is in error. See State v. Placid Oil Company, La. App., 274 So.2d 402, 422 (dissenting opinion). We reject that decision as unsound.

As was noted on original hearing, the defendants filed several exceptions. They were overruled by the trial court, and the Court of Appeal affirmed. We find no error in these rulings for the reasons assigned below.

Consistent with the views expressed, we hold that the State of Louisiana owns the disputed areas, located below the ordinary highwater mark of Grand Lake-Six Mile Lake, subject to the rights of its mineral lessee, Gulf Oil Corporation.

For the reasons assigned, the judgment of the Court of Appeal, insofar as it decreed the defendants to be the owners of the area hereinafter described, is reversed. Judgment is rendered in favor of plaintiffs, State of Louisiana and Gulf Oil Corporation, against Placid Oil Company, J. Ray McDermott & Co., Inc., and all other defendants decreeing the State of Louisiana to be the owner of the property covered by State Lease 2963, dated April 18, 1956, to Gulf Oil Corporation, being more particularly described as follows:

> Commencing at a point on the present shore line of Six Mile Lake at its intersection with the boundary line between Sections 66 and 67, Township 15 South, Range 11 East, which point is also the Southwest corner of State Lease No. 2940, thence (for the Eastern boundary of the area herein described) running North 4700 feet to the South boundary line of State Lease No. 1392, thence West 9900 feet along the South line of said State Lease No. 1392 to a point for a corner; thence South to the original South shore line of Six Mile Lake, and thence in an Easterly, Southeasterly and Northeasterly direction following the meanders of the original South shore line of said Six Mile Lake to the Eastern boundary of the area herein described; being all of the area between the East and West boundaries thereof hereinabove set forth and extending from the North boundary thereof South to the original shore line of Six Mile Lake, said original shore line herein referred to being as shown on plat on file in State Land Office and attached to State Lease 2963 to Gulf Oil Corporation, dated April

18, 1956, duly recorded in the Conveyance Records of St. Mary Parish, Louisiana.

It is further ordered, adjudged, and decreed that the Placid Oil Company and J. Ray McDermott & Co., Inc., in solido, make an accounting to the plaintiffs for the oil, gas, and other minerals removed from said land, including the oil produced by the wells located on said property designated as S. G. Todd Wells 3, 4 and 5. For the purpose of the accounting, the case is remanded to the Sixteenth Judicial District Court for the Parish of St. Mary for further proceedings consistent with the views herein expressed.

The fees of the following expert witnesses are fixed in the following sums and taxed as costs:

Dr. John P. McDowell	$ 2,800.00
Dr. Willis A. Eggler	2,300.00
Dr. R. Kazmann,	350.00
Prof. R. A. Steinmayer	3,700.00
William Clifford Smith of the firm of T. Baker Smith & Son, Inc., Civil Engineers and Surveyors	9,000.00
Philip Whitaker of the firm of F. Shutts' Sons, Civil Engineers	12,500.00
Louis C. Peters of the firm of Barnett & Peters, Consulting Foresters	2,700.00

The fees of other expert witnesses are affirmed as fixed in the lower court.

All costs of court are assessed against the defendants, Placid Oil Corporation and J. Ray McDermott & Company, Inc., in solido.

Justices Marcus, Dixon and
Summers dissent.

APPENDIX "D-1"

DISSENTING OPINION OF JUSTICE SUMMERS

(Date of Entry: September 20, 1974

SUPREME COURT OF LOUISIANA

Nos. 53,294 & 53,295

STATE OF LOUISIANA, ET AL

versus

PLACID OIL COMPANY, ET AL
(INTERVENTION OF TEXACO, INC.)

SUMMERS, Justice (dissenting).

In 1964 we approved a finding that Six Mile Lake in St. Mary Parish was a stream. State v. Cockrell, 162 So. 2d 361 (La. App. 1964), *cert. denied,* 246 La. 343, 164 So. 2d 350 with these reasons: "On the facts found by the Court of Appeal we find no error of law in the judgment complained of." Ten years later, by this decision, on the same facts, we change the rule of law and hold that the same body of water is now a lake. Not only is this the identical body of water, the accretion involved here is in close proximity to the accretion in the Cockrell Case. The strange paradox resulting from the decision gives defendant's neighbors in the Cockrell Case a short-distance upstream title to the accretion and denies a like accretion to defendants.

To accomplish this result, the Court has held that the 1931 decision of State v. Erwin, 173 La. 507, 138 So. 84, was not supplanted by a series of cases which followed. These later cases established the rule of law applied in the Cockrell Case to classify Six Mile Lake as a stream. See Amerada Petroleum Corporation v. State Mineral Board, 203 La. 473, 14 So. 2d 61 (1943), later recognized in Amerada Petroleum Corporation v. Case, 210 La. 630, 27 So. 2d 431 (1946) and Esso Standard Oil Company v. Jones, 233 La. 915, 98 So. 2d 236 (1957). In effect the Court has resurrected the Erwin Case from the ineffective status to which it was assigned by later rulings.

The wells involved in this case were located and drilled on the faith of the principles of property law announced and applied in the first Amerada Case and fully recognized in the other cited cases. The return to the Erwin rule brings about a retroactive change in the law which was unpredictable in terms of relevant precedents. As a result, defendants have been deprived of their property without due process of law; and this decision results in the taking of private property for public use without compensation, all in violation of the Fifth and Fourteenth Amendments to the Constitution of the United States and Article I, Section 2 of the Constitution of Louisiana.

In setting aside our original decision, the Court asserts that undue weight was given "to the existence of water current capable of forming accretions as a basis for classification." This holding despite the fact that water currents are the natural phenomena of all streams and their most dominant characteristic.

In reviving and applying the Erwin rule, the Court cast aside the established jurisprudence of this State for a period in excess of thirty years and reached a decision in direct conflict with the doctrine of accretion long recognized by Articles 455, 509 and 510 of the Civil Code. To reach its result the Court leaned heavily on broad considerations of ecology, environment and the public fisc, matters not at issue in the case and concerning which there are no findings of fact supported by this record.

The so-called "multiple factor test" adopted by the Court for classifying water bodies is in effect a statement of the rule of the Erwin Case. In my view the classification of Six Mile Lake as a "Lake" under that test was erroneous and invalid for several reasons.

The finding by the trial court and the Court of Appeal and this Court on original hearing that Six Mile Lake annually carries off a substantial portion of the tremendous volume of water flowing to the sea through the Atchafalaya River has not been changed on rehearing. This determination remains the principal and crucial factual finding of this case. The official state map dramatically illustrates that Six Mile Lake forms an integral part of the dynamic water system of the Atchafalaya Basin, vividly underscoring its capacity as a body of running water of tremendous force.

The laws of accretion were intended to have particular application to water bodies capable of carrying and depositing sedimentary loads and capable of changing their shorelines. Bodies of running water fit into that category, and the history of our Code articles support this rationale.

In classifying Six Mile Lake as a lake the Court disregards the most important characteristic of a water body for the purpose of classification under Civil Code Article 509, that is, a moving or running body of water principally endowed with the capacity for change. Instead the Court has emphasized other physical features which are either not supported by the record or which have pertinence only in the limited fields of geology or cartography. And this notwithstanding the fact that the State expressly admitted in its application for writs that the issue before the Court was the classification of the water body under our laws relating to accretion and dereliction.

This reasoning of the Court is based upon the erroneous premise that if the capacity to form accretions is the test for classification, a minimal amount of accretion in any type of water body would satisfy the requirements of Article 509 of the Civil Code because the presence of accretions proves up the capacity to form them. This overly simplistic approach is irrelevant to the facts of this case. It disregards the admitted fact that Six Mile Lake is a dynamic body of water carrying a substantial portion of the waters of the Atchafalaya Basin to the Gulf. This approach requires classification of Six Mile Lake as a placid or immobile body of water having no real capacity for undergoing physical change. Nothing could be further from the facts. The characteristics of Six Mile Lake are otherwise.

The Court's opinion is also based upon erroneous factual findings. The finding that Six Mile Lake has a thalweg of only eight feet is contrary to the Cathcart finding that immediately after Statehood the water body had

a channel of four and one-half fathoms, or twenty-seven and one-half feet.

A finding that Six Mile Lake is subject to tidal action and has brackish water does not detract from its classification as a stream when it is noted that the Mississippi River at New Orleans is also subject to tidal action and has brackish water. It is also error to compare Six Mile Lake to Lake Pontchartrain and Lake Calcasieu. Six Mile Lake has a different shape, configuration, watershed and the dynamics of its water system are strikingly dissimilar. While the Court's finding that Six Mile Lake is one of the five largest water bodies in Louisiana, many times larger than the river that enters it and that it has been designated as a lake on official maps may be correct, these considerations do not detract from the fact that it is a body of running water with capacity to form accretions, characteristics which make it, in natural and legal contemplation, a stream.

It is error for the Court to hold that the State's title extends to the ordinary high water line of Six Mile Lake as it existed when the State was admitted to the Union in 1812 as opposed to the present ordinary high water line. Title to the area between these two elevations involves a federal question determinable under federal law. Bonelli Cattle Company v. Arizona, 94 S. Ct. 517 (1973).

I respectfully dissent.